

# The Downsizing Catholic Church:

Learning from Borromini's Counter-Reformation Architecture

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## **ABSTRACT**

This thesis examines the work of Baroque architect Francesco Borromini toward an architectural response to the downsizing Catholic Church in North America. The century following the Protestant Reformation offered similar challenges to the Church. In response to the Reformation, numerous Counter-Reformation measures were employed to revive the Catholic Church. Architecture that conveyed Catholic theology was considered a valuable tool in restoring the Church. Selected buildings designed by architect Francesco Borromini are examined for insights into design techniques and strategies explored to synthesize Catholic theology and architecture. The Sant'Ivo alla Sapienza and San Carlo alle Quattro Fontane churches in Rome are studied using research-creation methods that employ architectural drawing as an investigative tool to discover the theological significance of the buildings. The architectural design proposal explores conclusions drawn from research and applies the research findings toward the design of small contemporary Catholic Church in Orangeville, Ontario.



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## 01 INTRODUCTION

Author and professor of theology Richard Lennan states, in his publication *Risking the Church: The Challenges of the Catholic Faith*, the Church has experienced a recession over the last century and is characterized today as in a “state of peril.”<sup>1</sup> Lennan provides numerous explanations for the Church’s decline, including issues related to Church architecture and its perceived irrelevance as being partly responsible.<sup>2</sup> Additionally, as a result of declining church attendance, larger and often historical significant Church buildings have required closure.

Today there is a need for smaller buildings to serve the parish. But, what are the considerations when contemporary architects design new, smaller buildings for Catholics and can these buildings contribute to the Church’s renewing efforts?

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<sup>1</sup> Lennan, Richard. *Risking the Church: The Challenges of Catholic Faith*. Oxford: Oxford University Press, 2004. 1.

<sup>2</sup> Lennan, Richard. *Risking the Church: The Challenges of Catholic Faith*. Oxford: Oxford University Press, 2004. 35.

The century following the Protestant Reformation offered similar challenges to the Church. During the late 16th century, Protestants challenged Catholics for religious dominance within Europe. The community spread the teachings of their reformed Christian theology in hopes of attracting new members while criticizing the Catholic papal authority.<sup>3</sup> A new European devout formed attempting to encourage people to refrain from joining the reformed denominations.



Fig. 1. Reliving the Reformation.

Following the Reformation, a number of Counter-Reformation measures were employed to revive the Catholic Church. Architecture that conveyed Catholic theology was considered a valuable tool in restoring the Church's status. This thesis investigates the work of Baroque architect Francesco Borromini for insights into design techniques and strategies explored to synthesize Catholic theology

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<sup>3</sup> "Catholic Culture in the Age of the Baroque." *"Catholic Culture in the Age of the Baroque."* Arts and Humanities Through the Eras. 2018. Accessed November 06, 2018. <https://www.encyclopedia.com>



Fig. 2. Council of Trent.

and architecture.

The Counter-Reformation, prompted by the Council of Trent, was the Catholic response to the Reformation. As one of many measures, the Catholic church sponsored new forms of art, architecture and literature.<sup>4</sup> This propaganda established the Baroque period as a style, addressing the rivalry through architectural dominance, further shaping Rome's architecture and culture.

In conjunction with the Counter-Reformation, numerous architects including Francesco Borromini participated in the creation of Catholic churches with the objective of conveying Catholic theology. This proposition was executed to bring the religious followers closer to their Deity. In order

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<sup>4</sup> "Catholic Culture in the Age of the Baroque." "Catholic Culture in the Age of the Baroque." *Arts and Humanities Through the Eras*. 2018. Accessed November 06, 2018. <https://www.encyclopedia.com>

to comprehend Borromini's design intentions, it is crucial to first discern his persona. In his publication *Borromini*, Anthony Blunt analyzes Borromini's character; in imperative detail to comprehend the architect's innovative design approaches:

Borromini, though physically of a fine presence, lacked all the social graces. He was melancholy, nervous and uncompromising, and these qualities soon turned to a neurotic fear of all human contacts and a suspicion of people, which almost reached the stage of persecution mania.<sup>5</sup>

Blunt portrays the essence of Borromini providing logic for his esoteric and exoteric approach to architecture, further reasoning the destruction of his own architectural drawings before his suicide in 1677.<sup>6</sup> Although most original drawings were destroyed, prior to his suicide he produce a publication in 1660 of his works with redacted drawings, withholding specific design content.<sup>7</sup> Borromini's esoteric and exoteric design applications and refined publications require in depth analysis to reveal the architects intentions of conveying Catholic theology through architecture.

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5 Blunt, Anthony. *Borromini*. London: Penguin Books, 1979. 21.

6 Blunt, Anthony. *Borromini*. London: Penguin Books, 1979. 129.

7 Blunt, Anthony. *Borromini*. London: Penguin Books, 1979. 129.

## 02 METHODOLOGY/CASE STUDIES

### Methodology

San Carlo alle Quattro Fontane and Sant'Ivo Alla Sapienza churches, are studied using research-creation methods that employ architectural drawing as an investigative tool to discover their theological significance. Research-creation is applicable to fine arts programs granting an intellectual approach to research.<sup>8</sup> This technique exercises the creative process to develop or renew an artistic discipline offering theoretical contextualization.<sup>9</sup>

The Baroque architect Francesco Borromini contributed to the Counter-Reformation efforts through numerous Catholic church designs. In 1660, he published several drawings describing the ideal underlying geometry of the buildings design. However, prior to his suicide in 1677, he

<sup>8</sup> Archambault, Éric, Frédéric Bertrand, Manon Bourgeois, and Julie Caruso. *Formative Evaluation of SSHRC's Research/Creation in Fine Arts Program*. PDF. Social Sciences and Humanities Research Council (SSHRC), October 8, 2007.

<sup>9</sup> Archambault, Éric, Frédéric Bertrand, Manon Bourgeois, and Julie Caruso. *Formative Evaluation of SSHRC's Research/Creation in Fine Arts Program*. PDF. Social Sciences and Humanities Research Council (SSHRC), October 8, 2007.



destroyed many drawings that conveyed how the geometric patterns were altered in response to site conditions.<sup>10</sup>

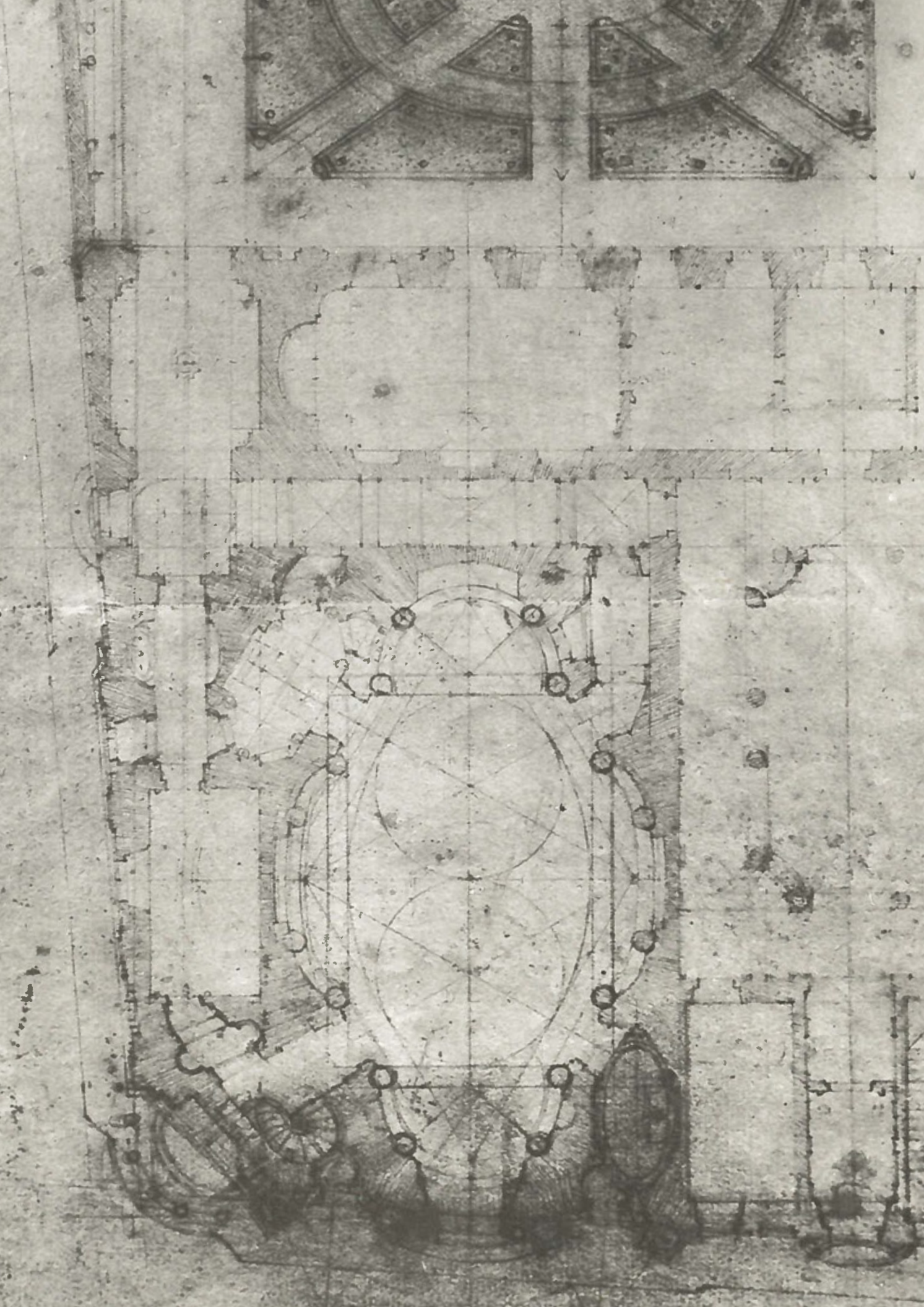
Borromini's San Carlo alle Quattro Fontane and Sant'Ivo Alla Sapienza churches are studied through the creation of architectural drawings. The drawings are employed as investigative tools to discover the churches theological significance through geometry and ornament. The geometrical patterns generating the buildings proportions are revealed in plan and section drawings. Composite architectural drawings are created to illustrate both church's ornamentation as it relates to the Christian Scriptures.

### **San Carlo alle Quattro Fontane Geometry**

San Carlo alle Quattro Fontane was Borromini's first architectural commission by the Barefoot Trinitarians, who dedicated the church to San Carlo Borromeo, the Archbishop of Milan. The Trinitarian Order was established toward the end of the twelfth century with the papal approval of Pope Innocent III. From its origin, the Order was devoted to the mystery of the Holy Trinity; God the Father, Jesus the Son, and the Holy Spirit. Located on a small site at the Four Fountains, the building consisted of a dormitory, courtyard and chapel. This Spanish friar community settled in the surrounding area in 1611. Construction began in 1638 and

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<sup>10</sup> Blunt, Anthony. *Borromini*. London: Penguin Books, 1979. 129.



*Fig. 3. Borromini's Plan of San Carlo alle Quattro Fontane*



was completed in 1641. The Order leader of Rome Fra Juan envisioned the church as, “[That] just as man should be humbled on earth, God should be exalted; he though



*Fig. 4. Church of San Carlo alle Quattro Fontane.*

rich, even extravagant terms. ... A church that captures the unknowable face of God.”<sup>11</sup>

The chronological process of layering geometric shapes enabled Borromini to develop a form remaining connected to the theology of the Holy Trinity. Borromini used the equilateral triangle, a symbol of the Trinitarian Order, as the foundational geometry of the church’s design.

Beyond the concept of life and death, the cross is a symbol of hope. Carl E. Braaten, in his essay *A Trinitarian Theology of the Cross*, expands the theological significance of the cross to the Trinitarians, “Hope is not without memory. With Pannenberg at that time he based hope on the resurrection of the crucified Christ; now with Metz he is invoking the memory of the cross of risen Christ, his suffering and death.”<sup>12</sup> The theological message of the Church is in reference to the cross containing the relevance of Christianity. It is a symbol of the generative cycle of despair and salvation, further coinciding with the Counter-Reformation.<sup>13</sup>

Michael Hill, in his essay *Practical and Symbolic Geometry*

11 Morrissey, J. P. *The Genius in the Design: Bernini, Borromini, and the Rivalry That Transformed Rome*. London: Duckworth, 2006. 99.

12 Braaten, Carl E. *A Trinitarian Theology of the Cross*. PDF. Chicago: University of Chicago Press, January 1976. 113.

13 Moltmann, Jurgen. *The “Crucified God” A Trinitarian Theology of the Cross*. PDF. University of Tübingen. 294.

in Borromini's *San Carlo Alle Quattro Fontane*, critiques Leo Steinberg who states the plan of San Carlo developed from the integration of two equilateral triangles. Hill recreated Steinberg's theory concluding there was a missing component. Hill suggests the biangolo informs the equilateral triangle. Hill described the biangolo as, "[When] the tips of the base line are connected to the intersecting arcs above and below, a rhombus is formed, that is, end-on-end equilateral triangles."<sup>14</sup> Analyzing Leo Steinberg's theory in conjunction with the biangolo, Hill continued to decipher the plan of San Carlo, reflecting on Federico Bellini's statement, "[The] geometry did not create the architecture, rather the architecture created the geometry."<sup>15</sup> He revealed the church's manipulated geometrical pattern was in response to site conditions, ultimately effecting the position of the adjacent extradae. In addition to Hill's analysis, drawing reveals the building's proportion of 1:3.

Furthermore, Hill refers to influential twelfth century religious art works illustrating the Holy Trinity enclosed by the form of an almond. Interactions of the Trinity are represented in these art works depicting the death of Jesus. God extends his arms supporting Jesus on the crucifix below, in presence of the Holy Spirit. This sacred art is analogous

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<sup>14</sup> Hill, Michael. *Practical and Symbolic Geometry in Borromini's San Carlo Alle Quattro Fontane*. PDF. University of California Press, December 2013. 565.

<sup>15</sup> Hill, Michael. *Practical and Symbolic Geometry in Borromini's San Carlo Alle Quattro Fontane*. PDF. University of California Press, December 2013. 558.

to the plan of San Carlo retaining the significance of the Holy Trinity in support of the geometrical form.



*Fig. 5. (Left) The Holy Trinity*



*Fig. 6. (Right) Christ as Geometer*

*Fig. 7. San Carlo alle Quattro Fontane Geometry Process (Page 29).*

*Fig. 8. Steinberg and Hill Theory (Page 30-31).*

*Fig. 9. Hill's Theory (Page 32-33).*

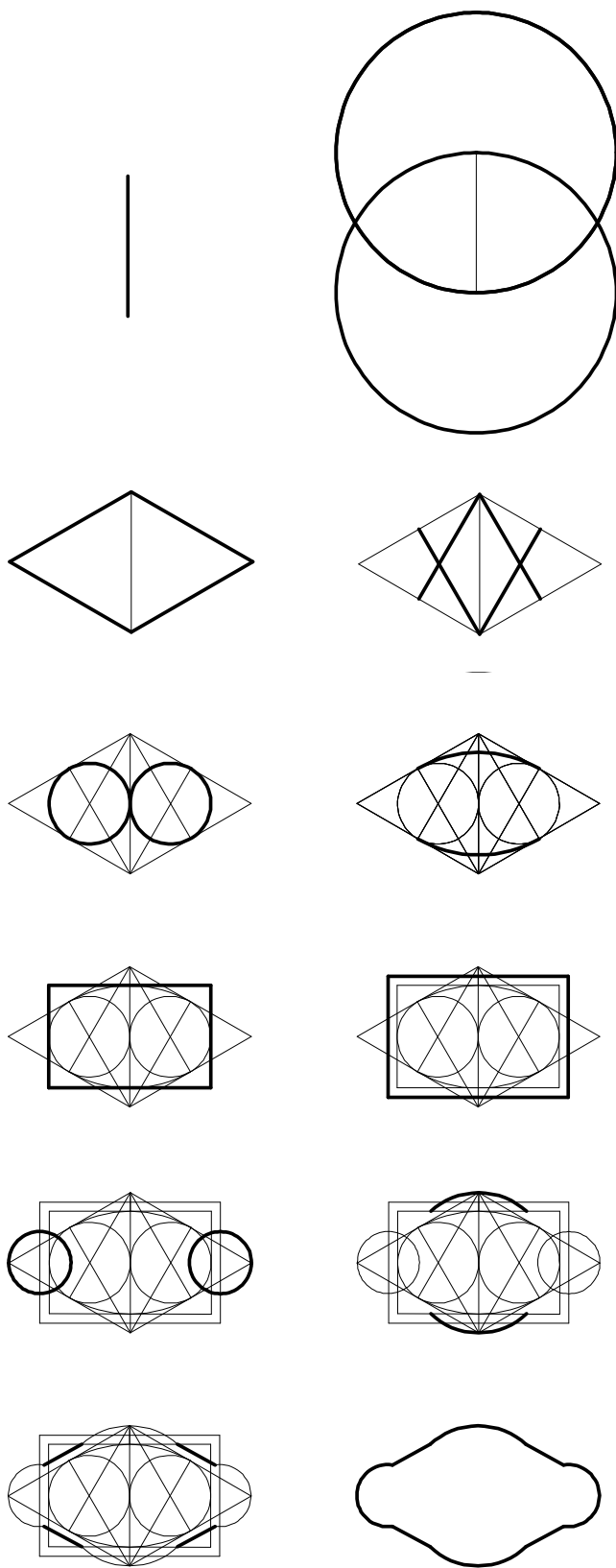
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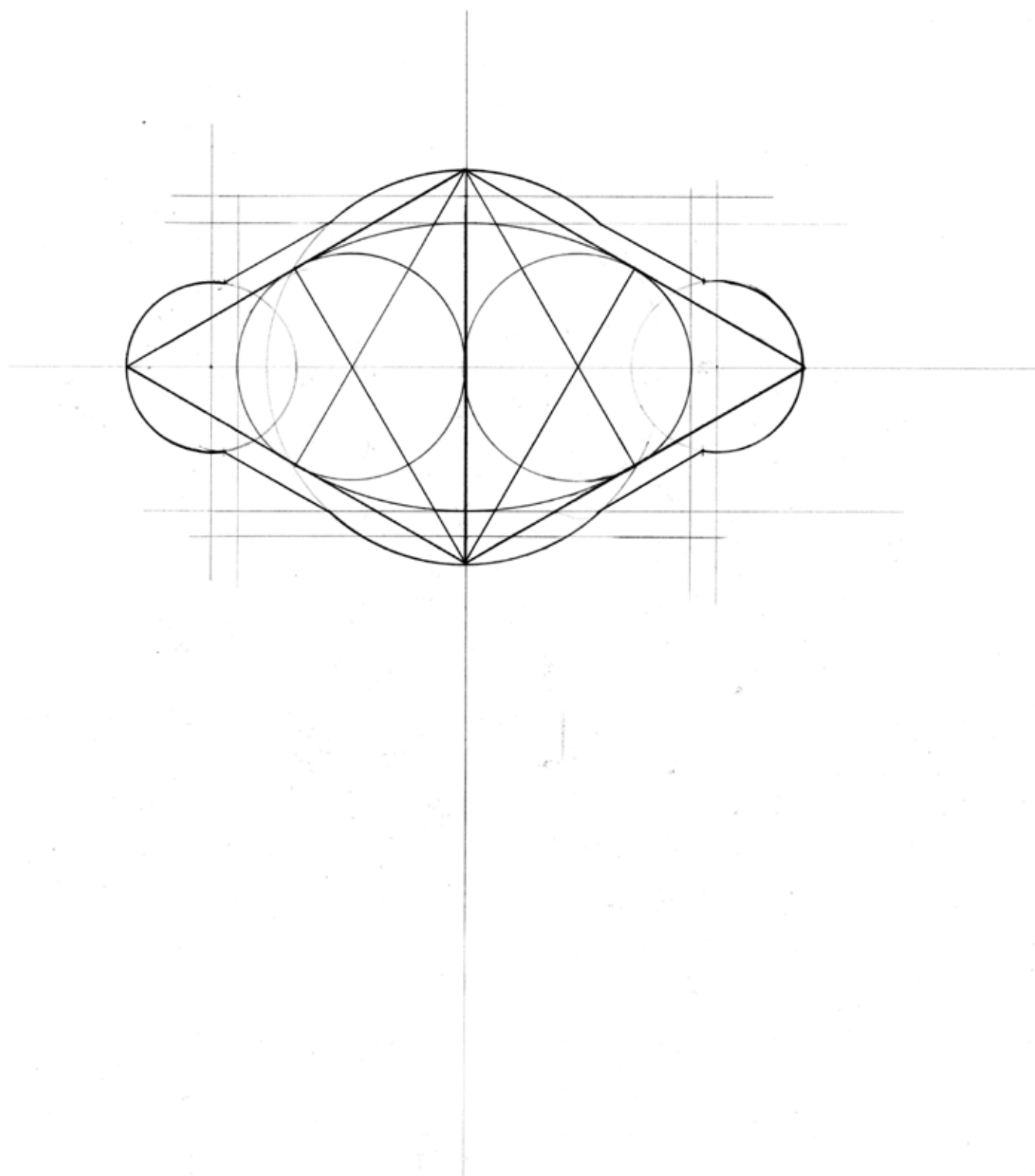
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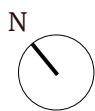
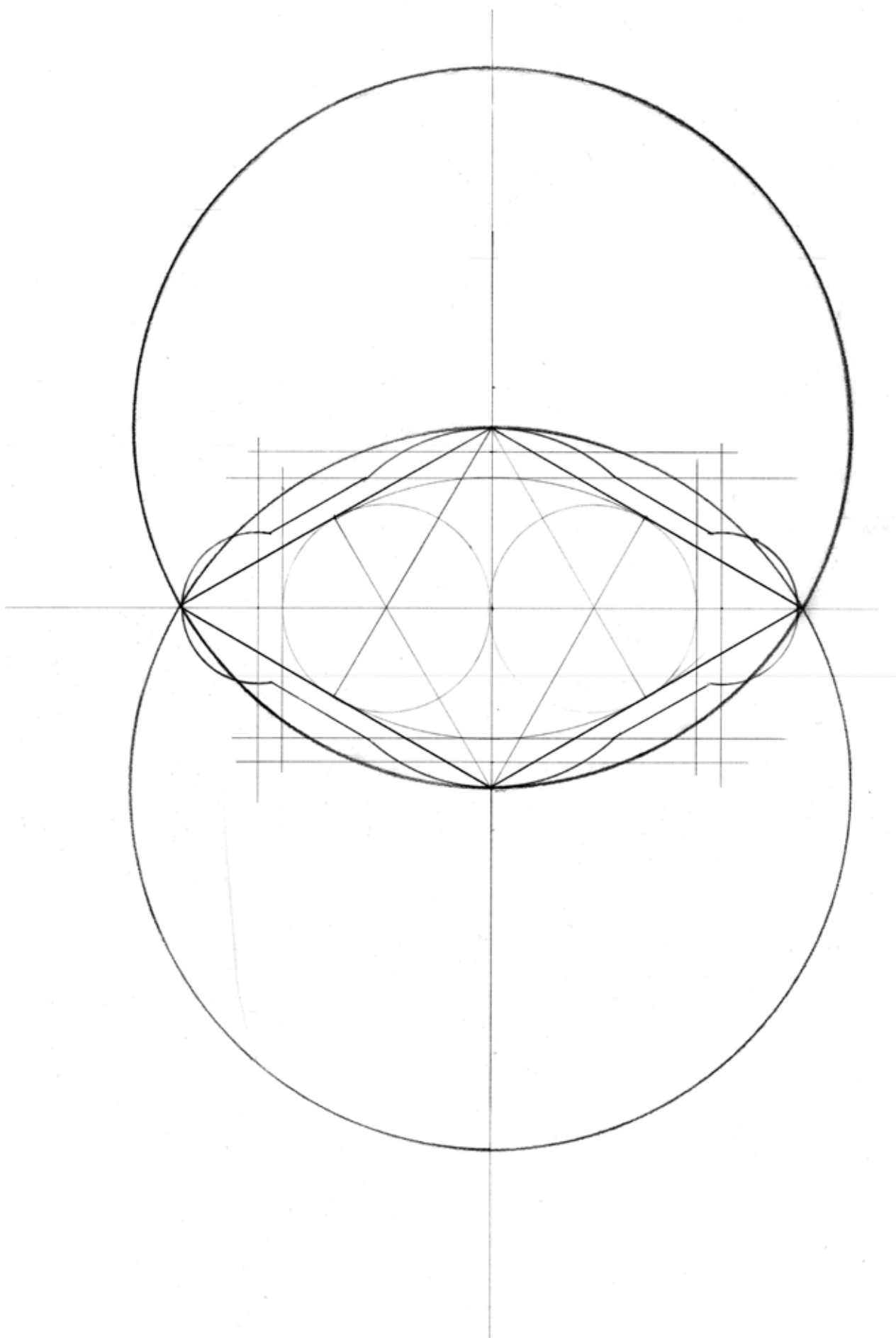
*Fig. 12. San Carlo alle Quattro Fontane Section (Page 37).*

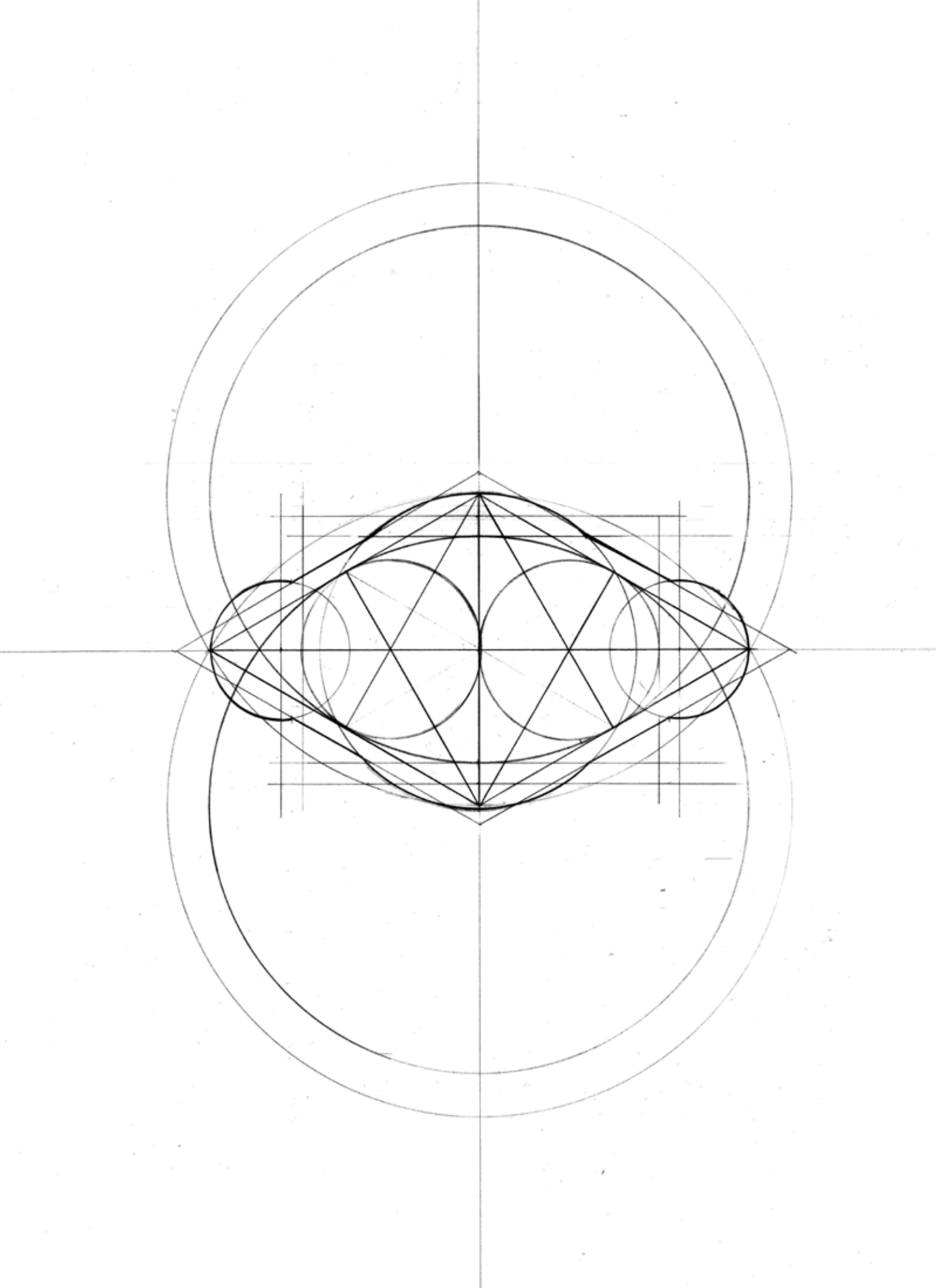


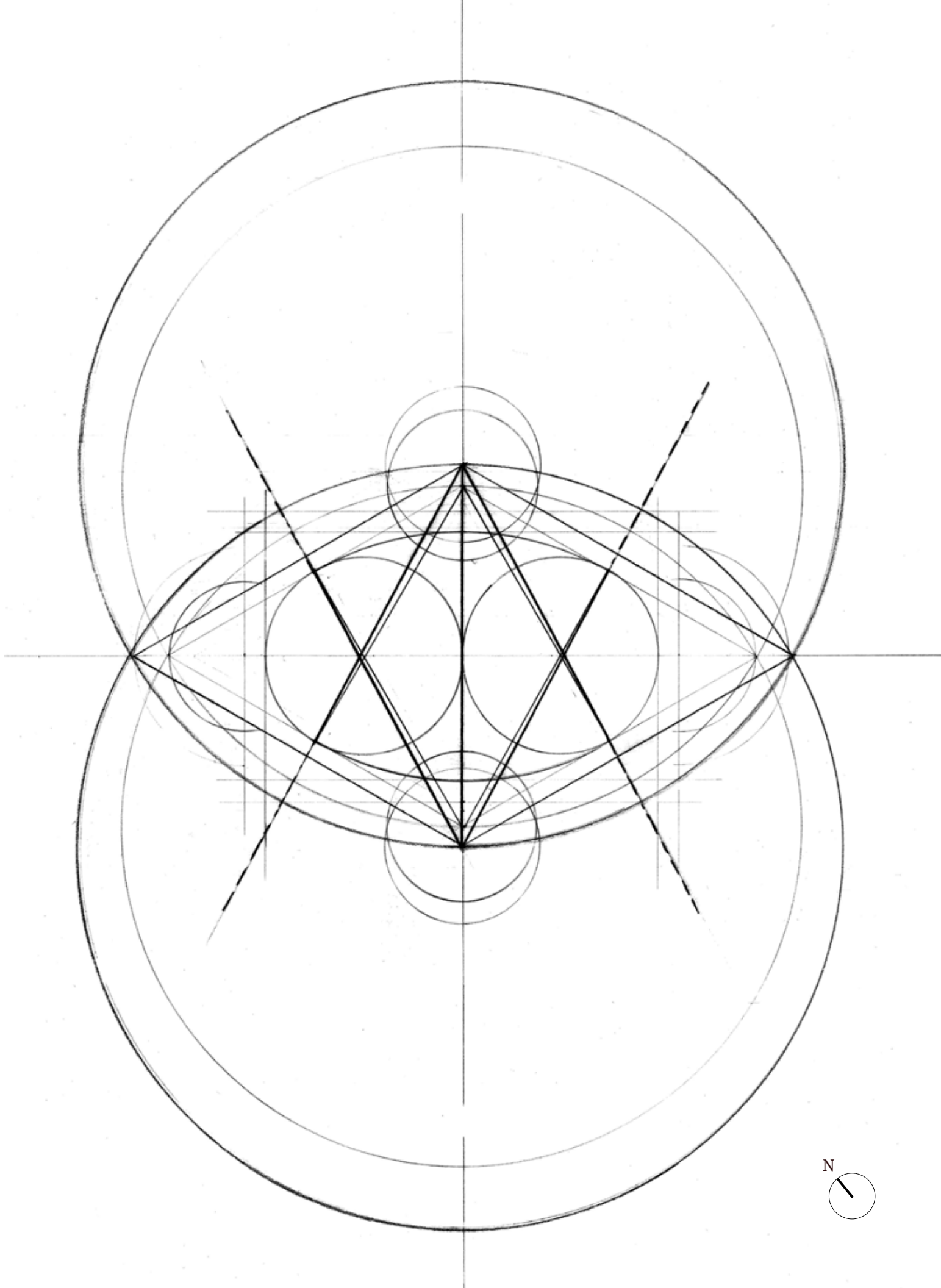




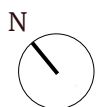
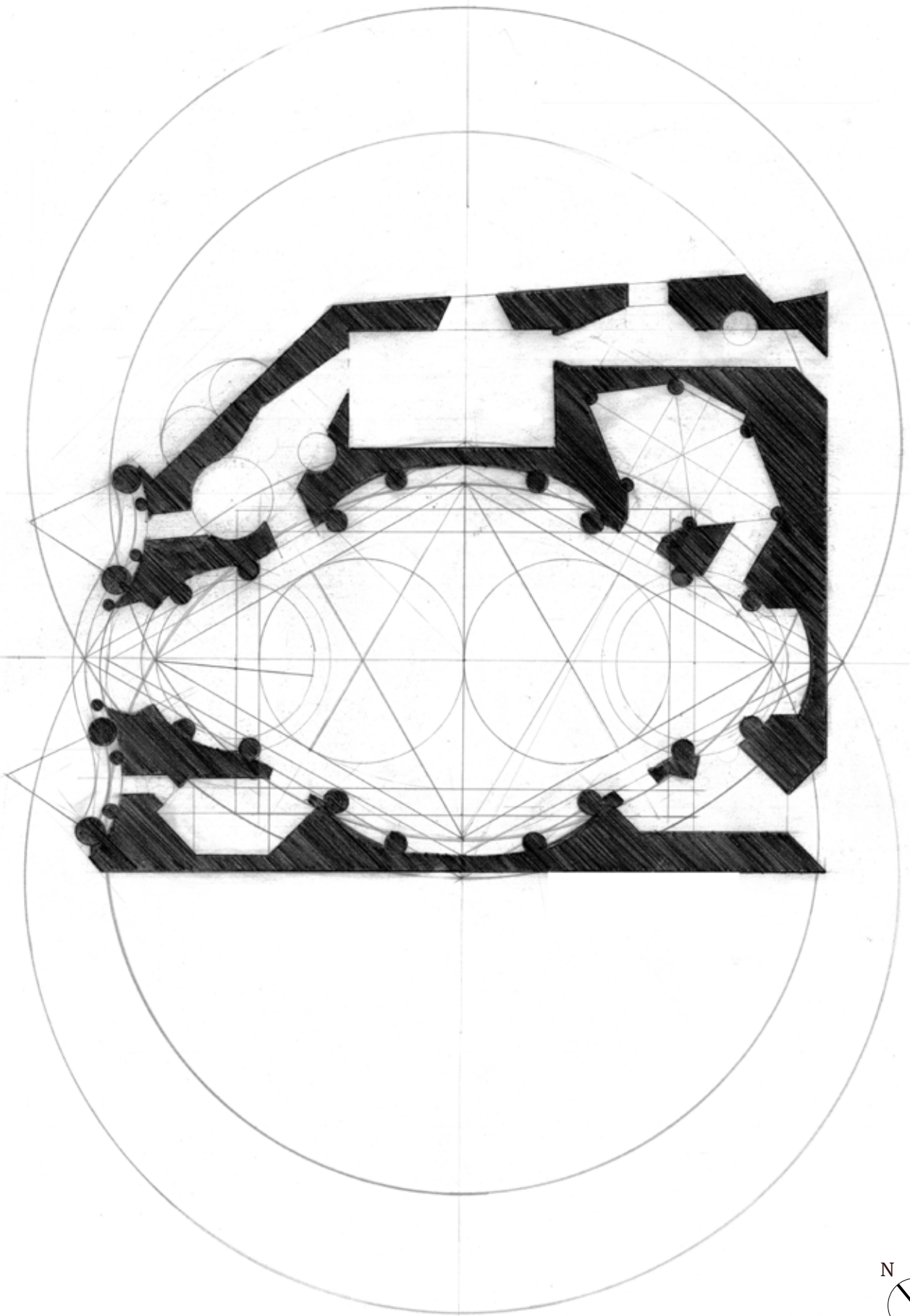


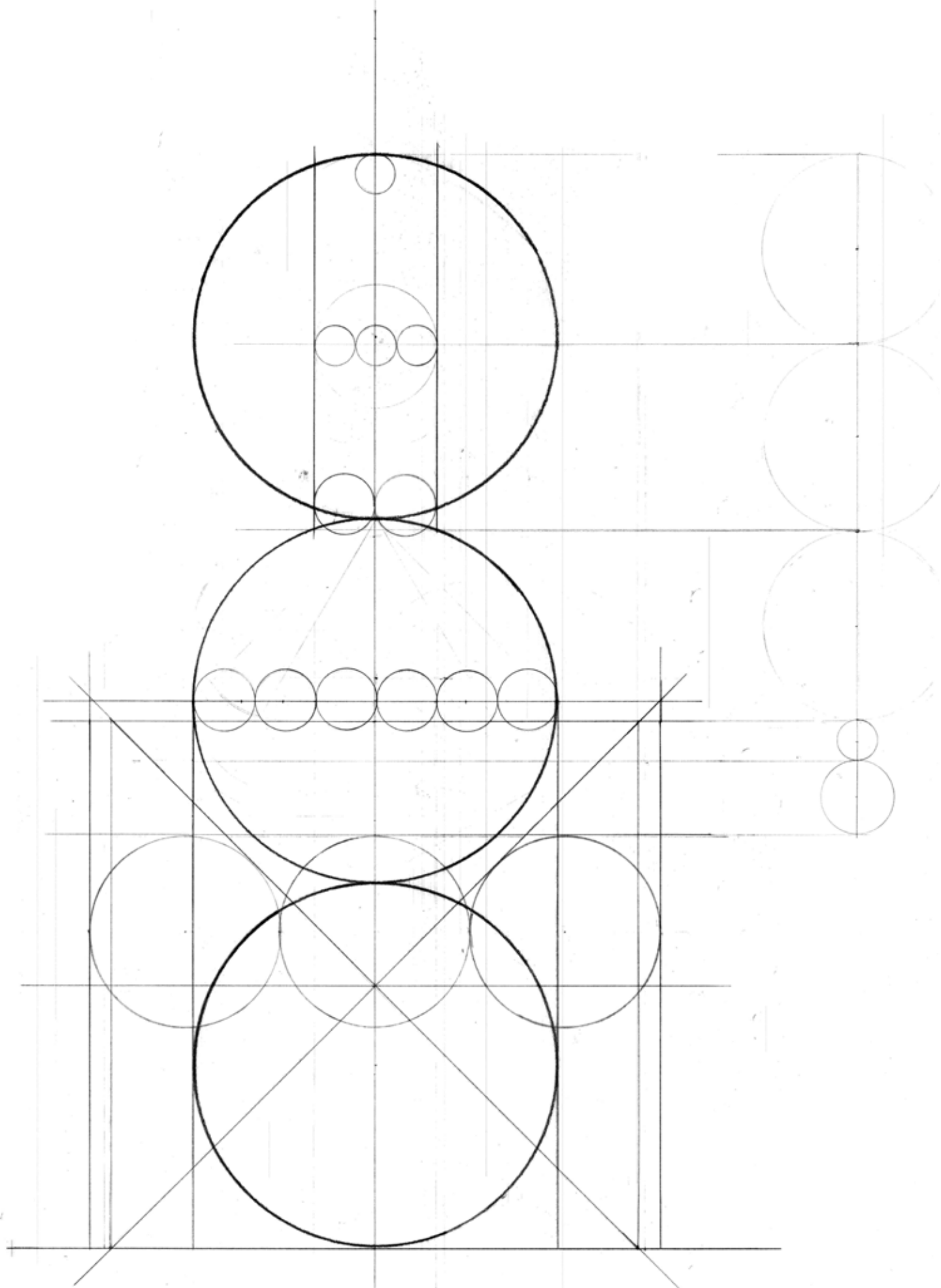




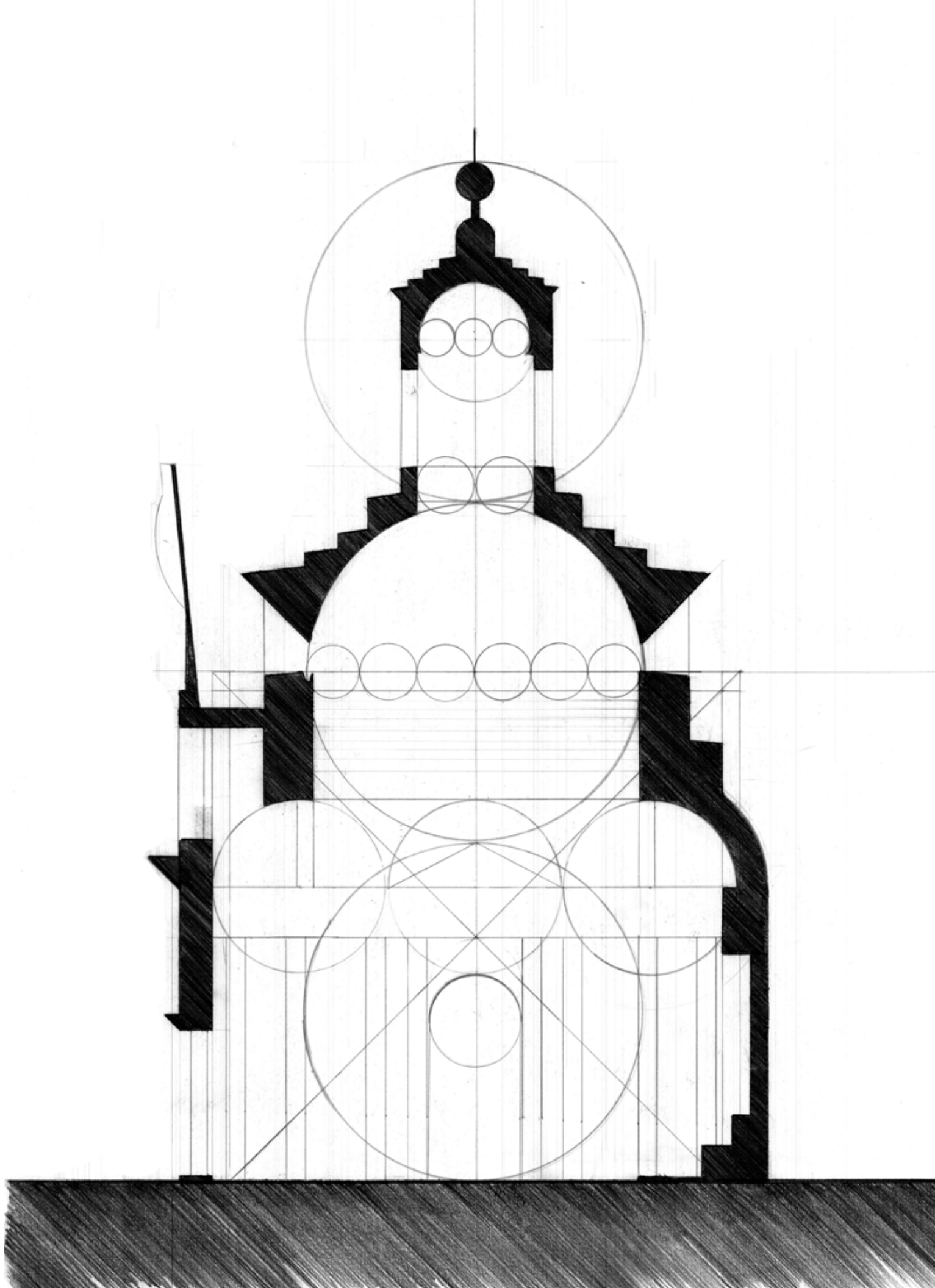












### **Sant'Ivo alla Sapienza Geometry**

Nearing the completion of San Carlo, Borromini was commissioned to design Sant'Ivo alla Sapienza, a church situated within Rome's first university. The University of Rome was founded in 1303 by Pope Boniface. The building of the school consisted of a courtyard, a proposed library and Chapel designed by architect Giacomo Della Porta. Della Porta's design proposal of the church was of a six lobed plan of concave curves composed of four side chapels. Borromini's innovative approach to reconfiguring Della Porta's design introduced convex curves, developing the design from a literal translation of the Star of David.

The church began construction in 1643 and was completed in 1660. As a scholarly institution, the church design expresses the theology of Divine wisdom. Borromini developed the geometric pattern of the church using the circle and equilateral triangle. Within Catholicism the circle symbolizes eternity and the triangle signifies the Holy Trinity, embodying the wisdom of God.

Julia M. Smyth-Pinney, in her essay *Borromini's plans for Sant'Ivo alla Sapienza*, produced a chronological analysis of Borromini's numerous church plan iterations in response to site conditions. Smyth-Pinney documented various

*Fig. 13. Borromini's Plan of Sant'Ivo alla Sapienza*

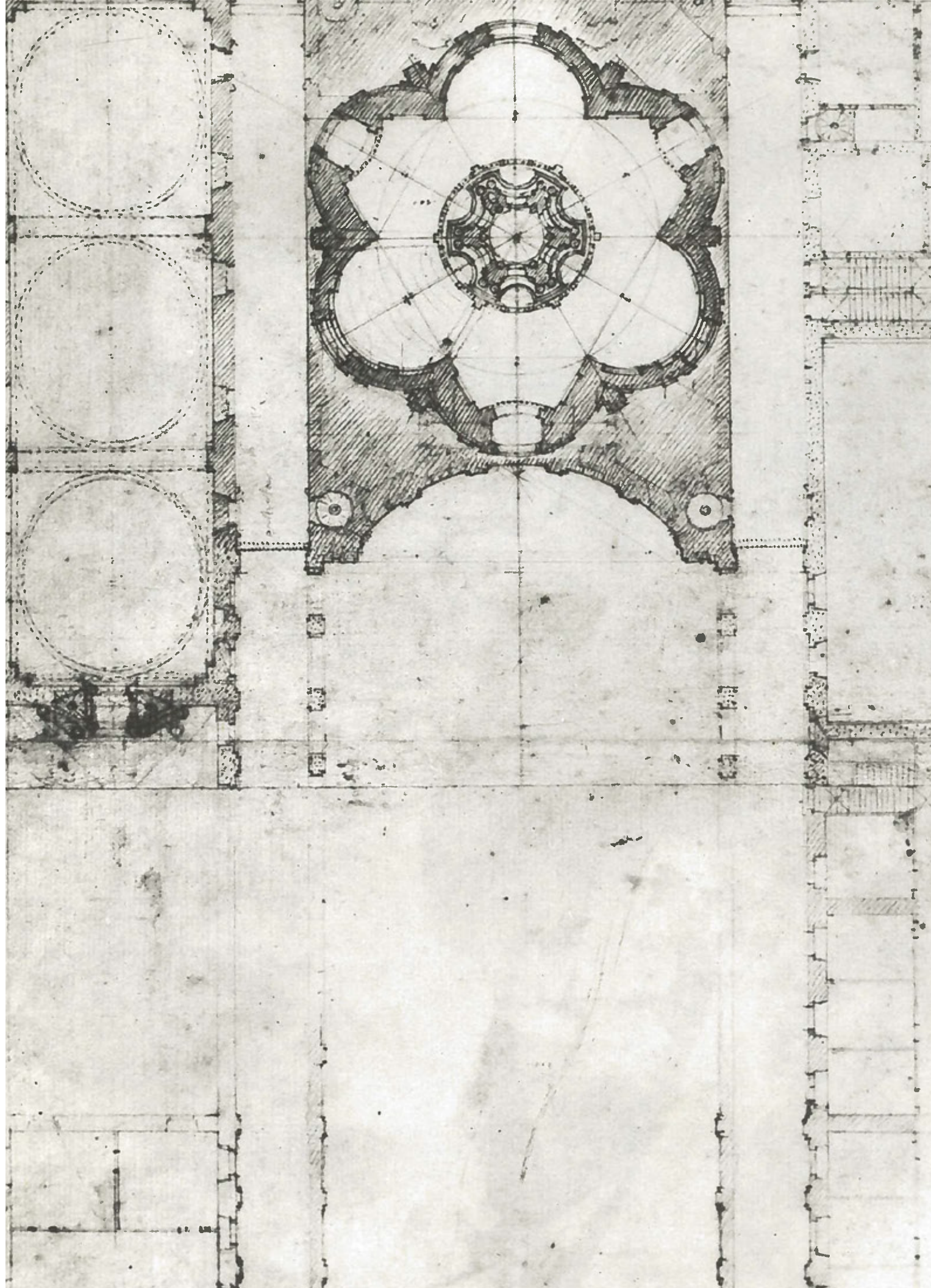






Fig. 14. Sant'Ivo alla Sapienza.

dimensions of the church including diameters within the geometric pattern, each divisible by the dome's diameter measurement of thirty-five palmi.<sup>16</sup> Similar to the church of San Carlo, Sant'Ivo follows proportions of 1:3.

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<sup>16</sup> Smyth-Pinney, Julia M. *Borromini's Plans for Sant'Ivo Alla Sapienza*. PDF. University of California Press, September 2000.

Further investigation of Sant'Ivo's geometry by Joseph Connors, in his essay *Borromini's S.Ivo alla Sapienza: The Spiral*, suggests the iconic spiralled cupola is not a true spiral. It is composed of offset curves therefore making each tier of the spiral appear to rise by an equal distance. From this analysis, Connors indicates Borromini was concerned with optical illusions rather than ideal geometry.

The curves of the top half of the drawing are semicircles generated from the real centre, while those of the bottom half are semicircles generated from a centre that has been moved about 1 palmi up and to the left ... they deal with the problem of how to make each turn of the spiral appear to rise by an equal amount.<sup>17</sup>

The San Carlo alle Quattro Fontane and Sant'Ivo alla Sapienza churches convey the Catholic faith through the integration of significant geometrical patterns within the architectural designs. Theorists Michael Hill and Joseph Connors conclude, Borromini altered ideal geometric patterns of the churches to situate the sacred spaces in response to site restrictions.

*Fig. 15. Sant'Ivo alla Sapienza Geometry Process (Page 42).*

*Fig. 16. Sant'Ivo alla Sapienza Geometry of Plan (Page 44-45).*

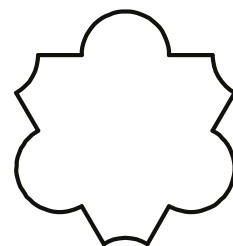
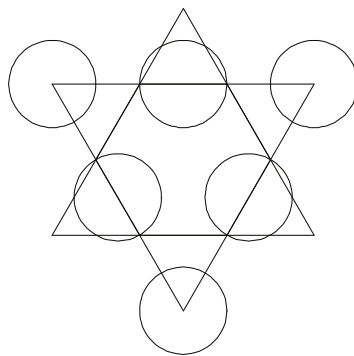
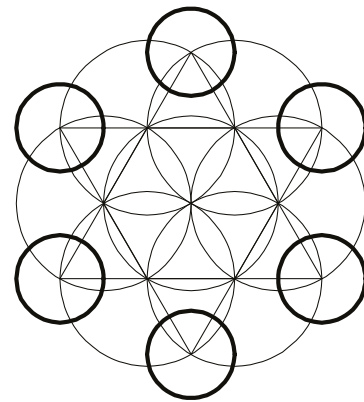
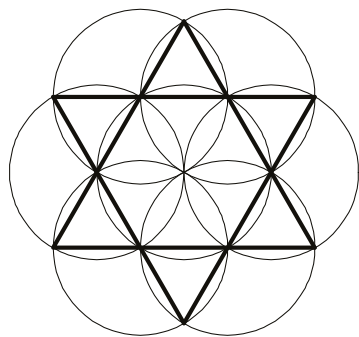
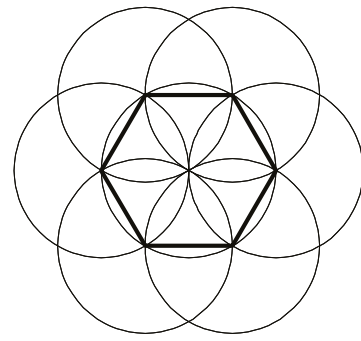
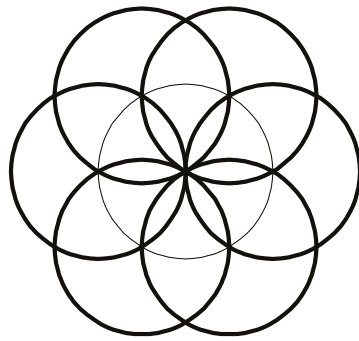
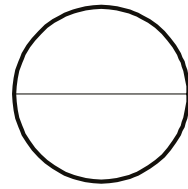
*Fig. 17. Sant'Ivo alla Sapienza Plan (Page 46-47).*

*Fig. 18. Sant'Ivo alla Sapienza Section Geometry (Page 48).*

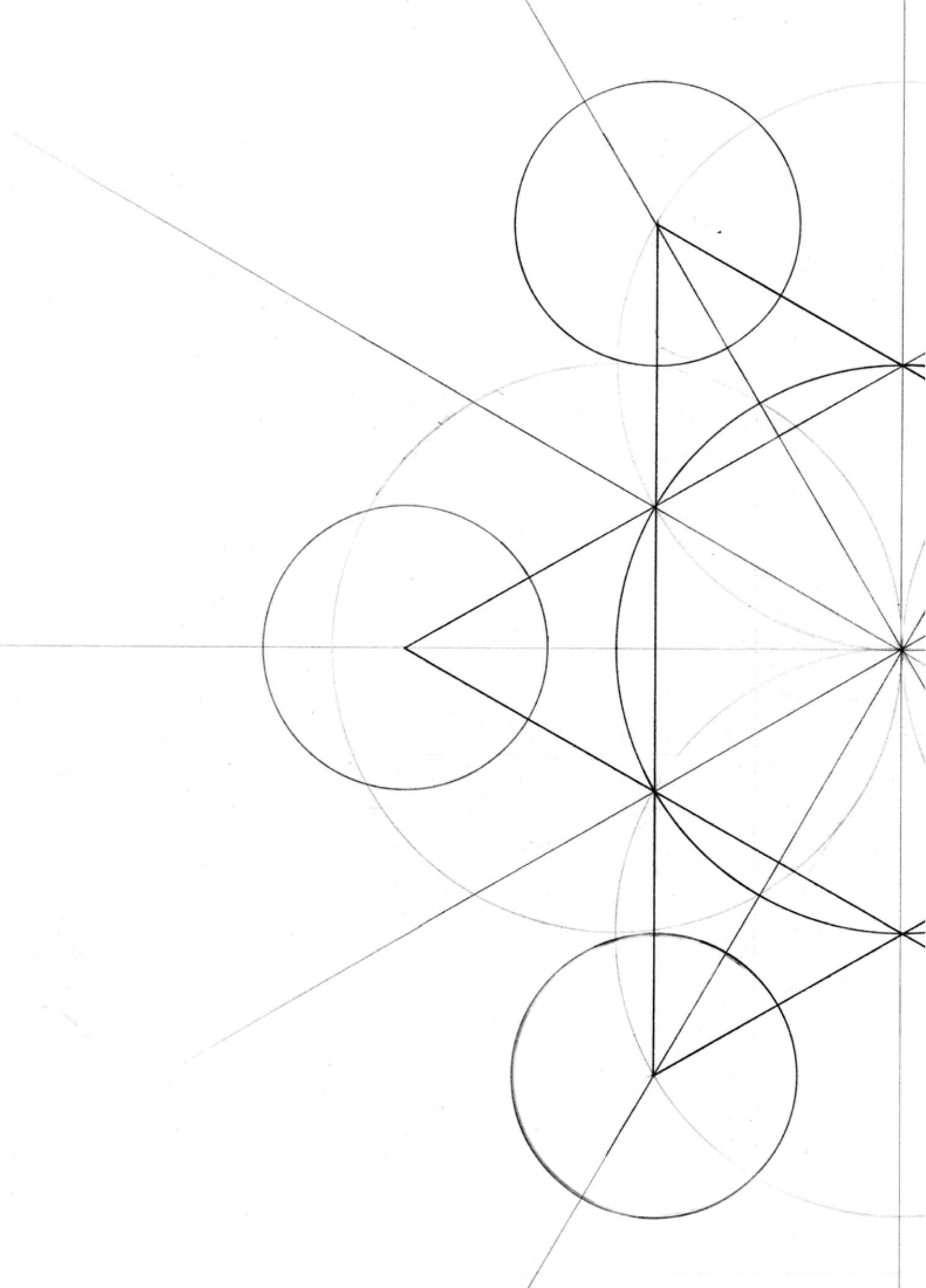
*Fig. 19. Sant'Ivo alla Sapienza Section (Page 49).*

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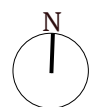
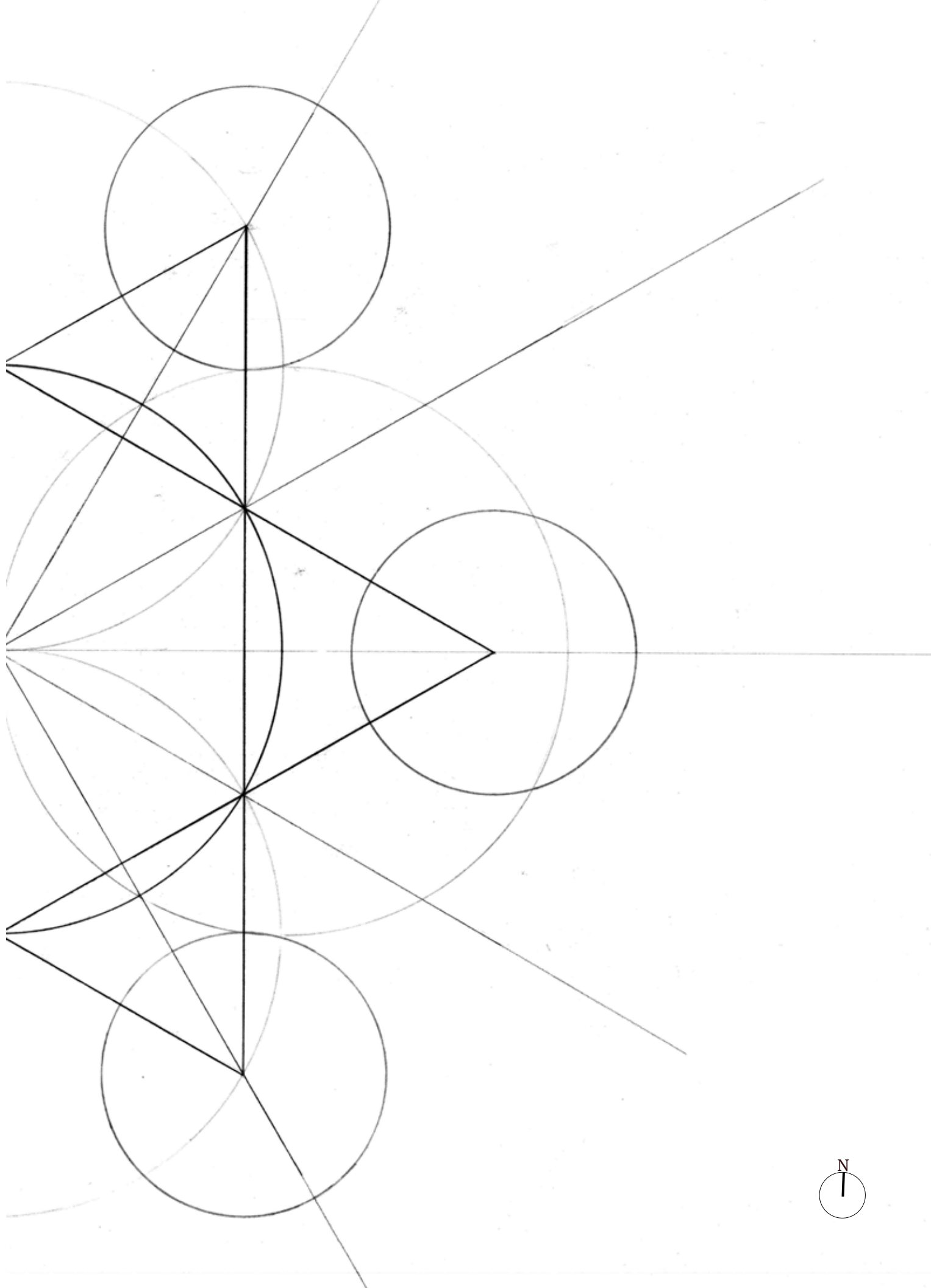
<sup>17</sup> Connors, Joseph. *Borromini's S. Ivo Alla Sapienza: The Spiral*. PDF. Burlington Magazine Publications Ltd, October 1996. 673.

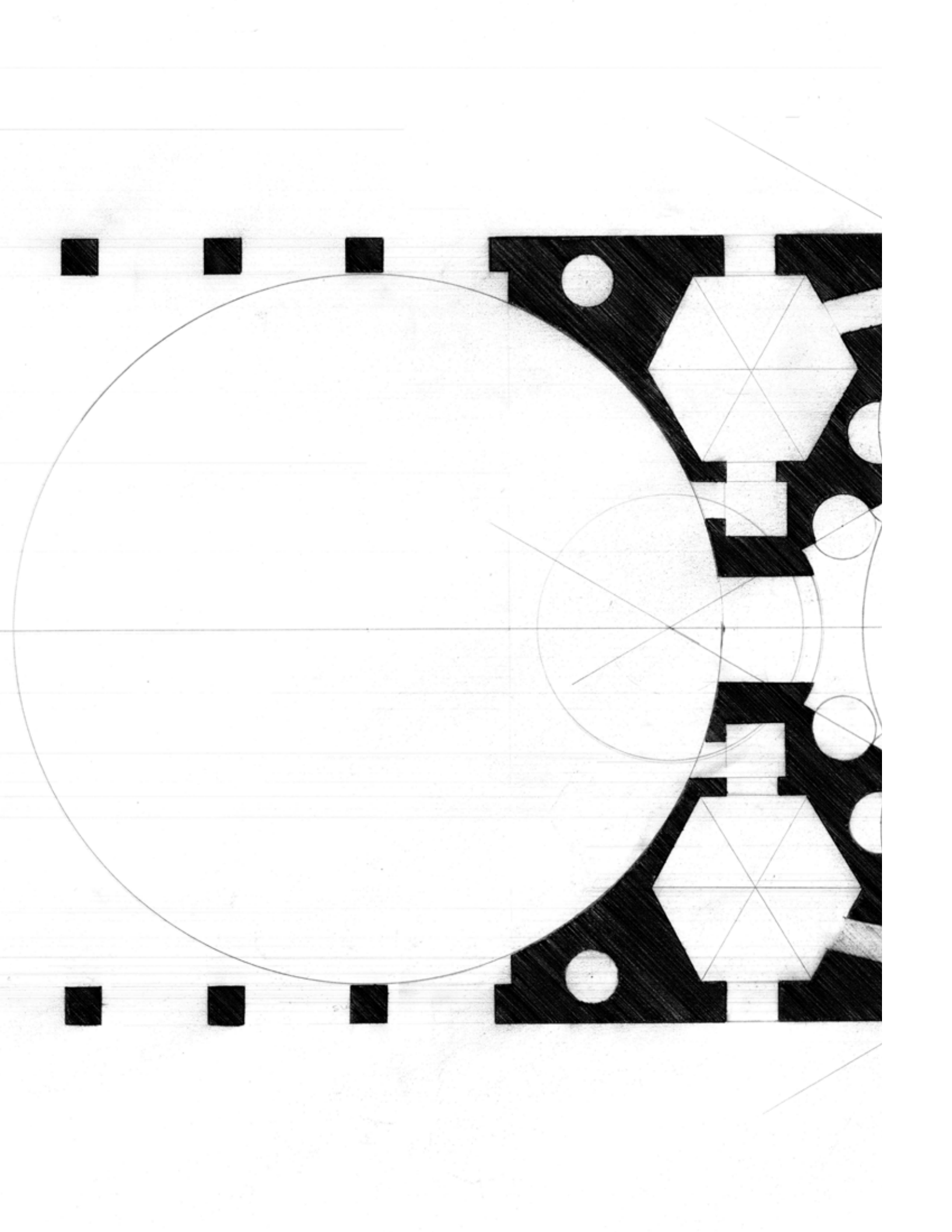


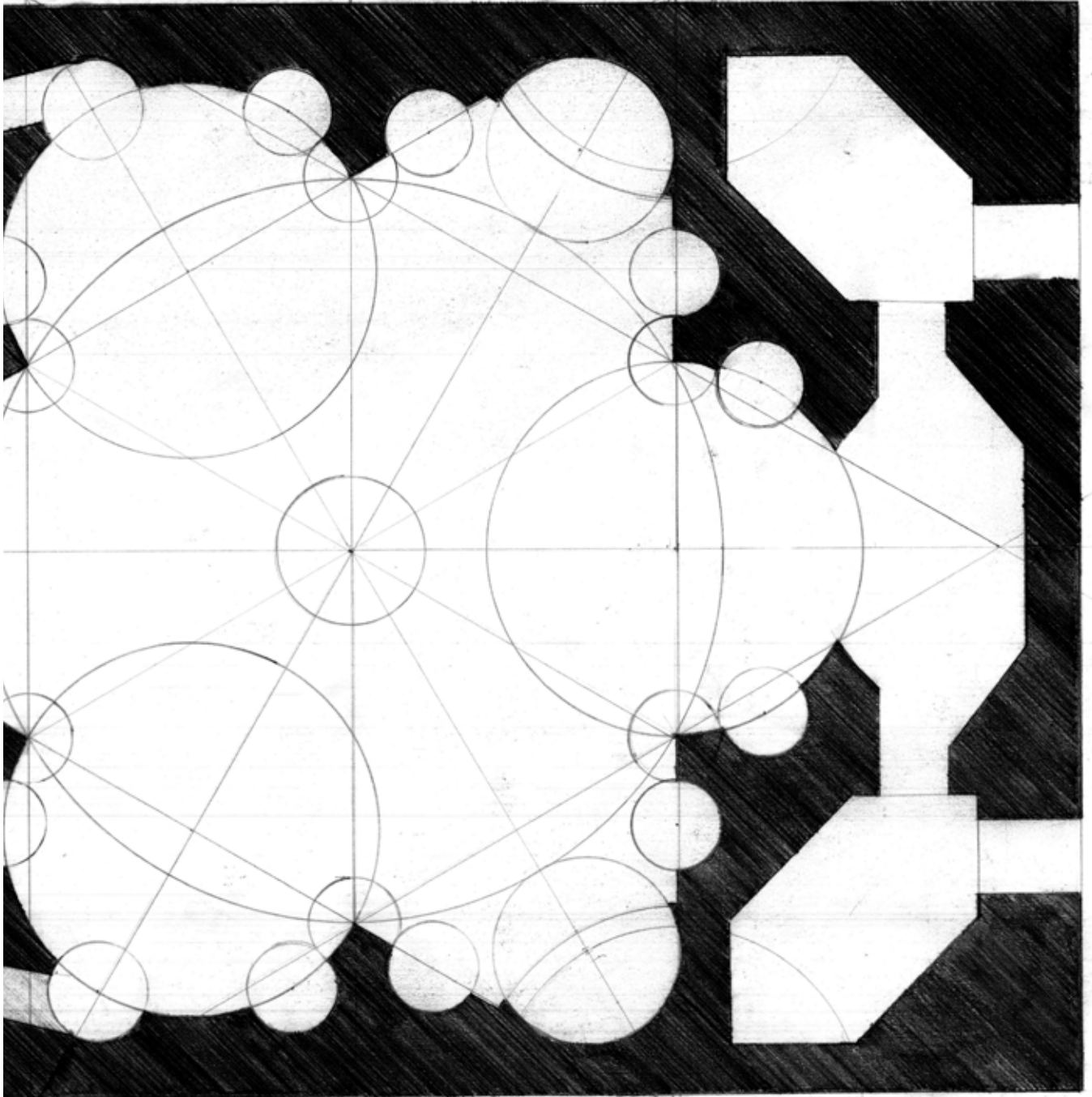


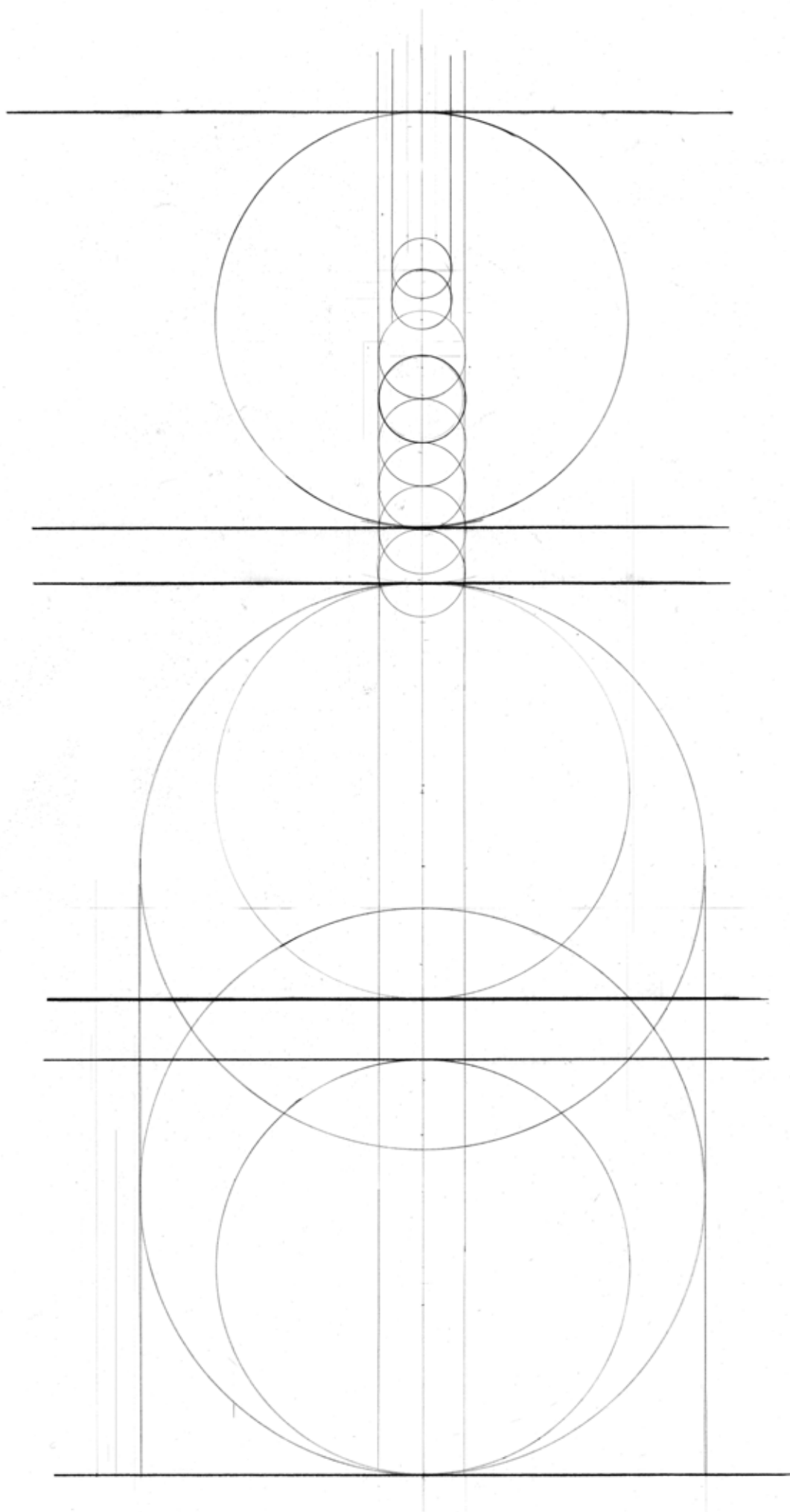


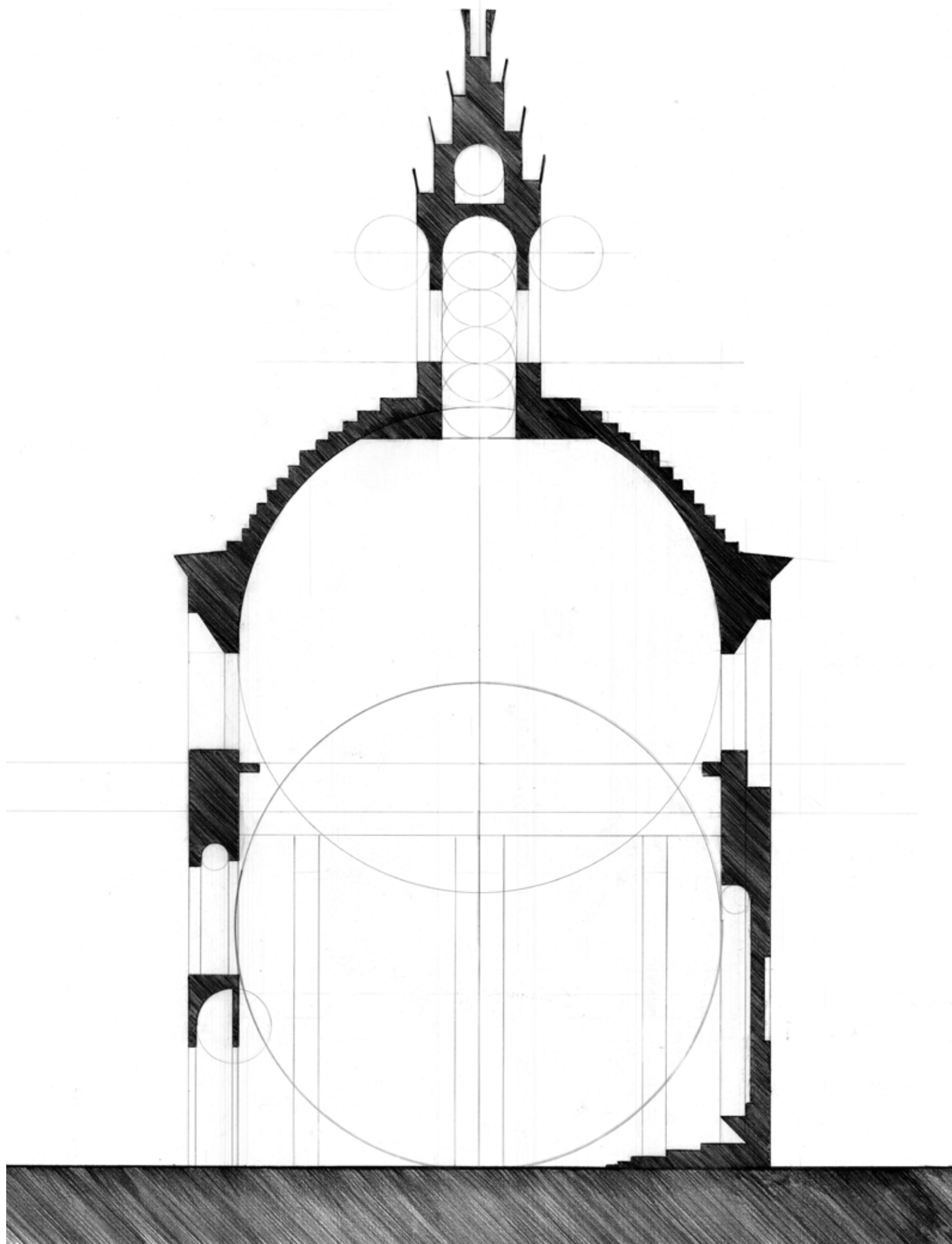












### **San Carlo alle Quattro Fontane Ornament**

Borromini also conveyed Catholic theology through ornamentation. San Carlo contains ornament throughout the church clearly communicating the Trinitarian Order's devotion to the Holy Trinity. The Church's focal architectural element is the dome designed as an ellipse geometry and decorated with ornamentation. The dome contains stucco geometric shapes of the octagon and cross ascending toward the centre. As they ascend, the shapes reduce in size, enhancing the grandeur of heaven through the illusion of depth. The octagon provides a visual reference to the courtyard adjacent to the Church harmonizing the two spaces. The cross symbolizes the Holy Trinity serving the theology of Catholicism. This ornament is repeated throughout the church to support the belief of the Trinitarian Order.



*Fig. 20. Dome of San Carlo.*

To understand Borromini's placement of ornament upon the Church, it is essential to study the Christian Bible. The Scriptures use parables to convey a message enabling readers to interpret the teachings of God. The reading according to Matthew 3:16 relates to the dove ornament descending from the cupola:

And Jesus, when he was baptized, went up straightway out of the water: and, lo, the heavens were opened unto him, and he saw the Spirit of God descending like a dove, and lighting upon him:<sup>18</sup>

Composite drawings illustrate the ornamentation as it relates to the Scriptures. The reflective ceiling plan with an enlarged dove descending from the cupola depicts the Holy Ghost descending from heaven. As a dome is the symbol of heaven and the cupola is the symbol of God in Church architecture, this determines the placement and significance of the dove. The perimeter of the church in the form of a cloud supports the text describing the heavens opening. This passage further portrays the baptism of Jesus with the light of God concentrated on him. Baptism is a sacred celebration for the new disciples of God. The light of God extends upon all those baptized within the congregation receiving the Holy Ghost.

Upon the various applications of the cross within the Church, the red Trinitarian cross is centred in the nave on the floor. The passage from Luke 23:46 communicates the

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<sup>18</sup> KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Matthew 3:16.



death of Jesus in the presence of the Father, Son and Holy Ghost:

And when Jesus had cried with a loud voice, he said, *Father, into thy hands I commend my spirit*: and having said thus, he gave up the ghost.<sup>19</sup>

This text illustrates the presence of God the Father, Jesus the son and the Holy Ghost, representing the one true God. This embodies the cycle of the sacrifice and salvation of God further conveying the theology of the Trinitarian Order.

Composite drawings stimulate interpretations of Borromini's ornament placement. Borromini created a portal between heaven and earth through the integration of the dove and Trinitarian cross. The Holy Ghost is brought upon those who have become baptized into Catholicism and Jesus ascends into heaven for the sacrifice of all sins. These two vital ornament implications convey the Trinitarian theology of hope expressed through the cycle of life and death.

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<sup>19</sup> KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Luke 23:46





*Fig. 21. San Carlo Nave.*

*Fig. 22. Descending Dove of San Carlo (Page 54-55).*



1:10  
M  
ure

And straightway  
coming up out  
of the water he  
saw the heavens  
opened, and  
the spirit like  
a dove  
descending  
upon him:

3:16-17

Matthew

And Jesus,  
when he  
was baptized,  
went up  
straightway  
out of the  
water: and  
lo, the heavens  
were opened  
unto him,  
and he saw  
the spirit of  
God descending  
like a dove,  
and abiding  
upon him:  
and lo a  
voice from  
heaven,  
saying, this  
is my beloved  
son, in whom  
I am well  
pleased.

3:21-22

L  
ure

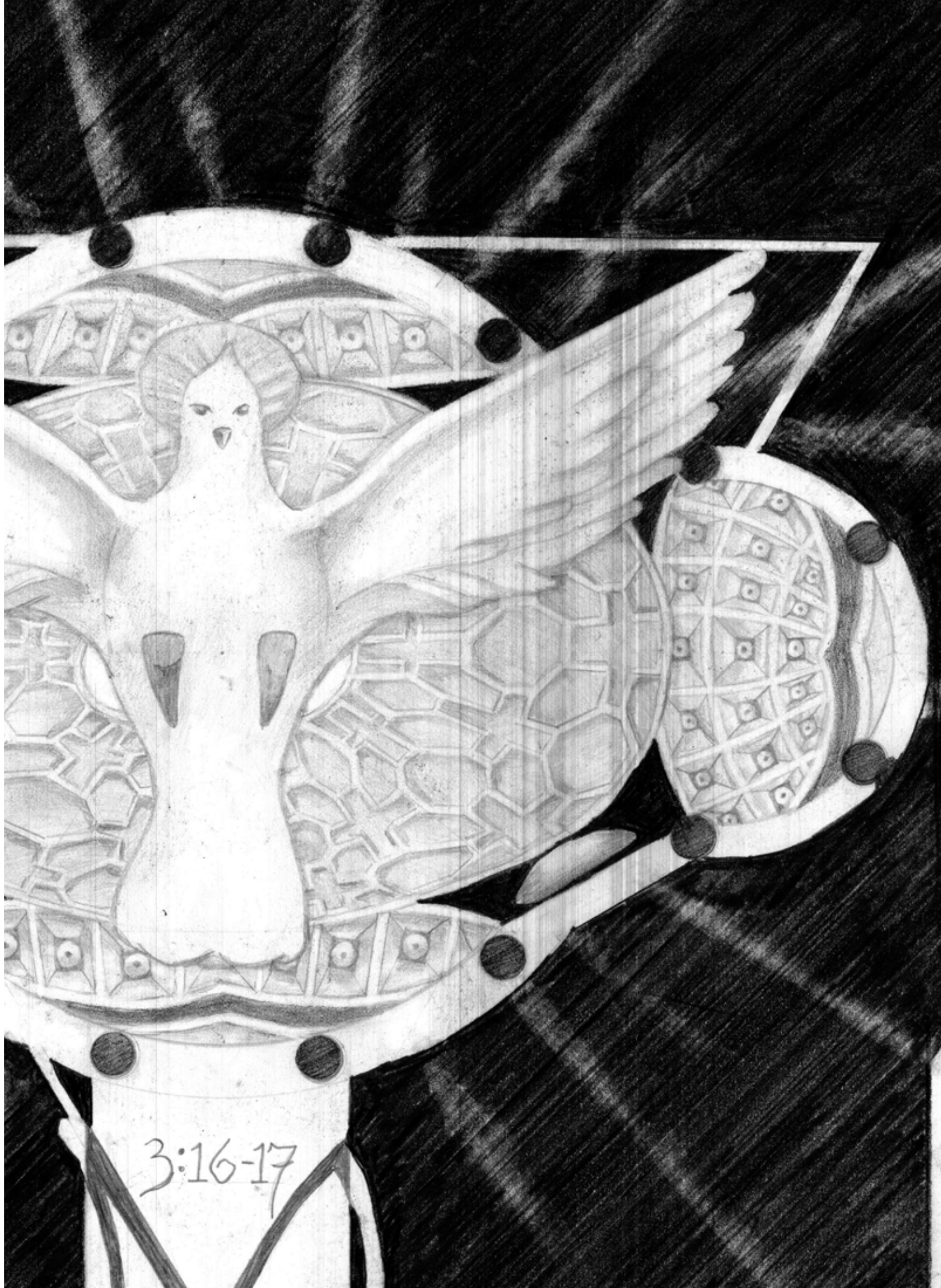
Now when  
all the people  
were baptized,  
it came to  
pass, that  
Jesus also  
being baptized  
and praying,  
the heaven  
was opened,  
and the Holy  
Ghost descended  
in a bodily  
shape like a  
dove upon him,  
and a voice  
came from  
heaven which  
said, Thou  
art my beloved  
son; in thee  
I am well  
pleased.

1:31-32

J  
ohn

And I knew  
him not: but  
that he should  
be made manifest  
to Israel,  
therefore am  
I come baptizing  
with water;  
and John  
bare record,  
saying, I saw  
the Spirit  
descending  
from heaven  
like a dove,  
and it abode  
upon him.

San Carlo alle Quattro Fontane



3:16-17

### **Sant'Ivo alla Sapienza Ornament**

Sant'Ivo alla Sapienza communicates the theology of the Divine wisdom through architectural ornamentation. The Divine wisdom is conveyed through numerous visual representations including the laurea, the spiralled cupola, the sculptures, and engravings.

During the construction of Sant'Ivo, the Jesuit school Collegio Romano challenged the University of Rome and its reputation of higher quality education. The schools rivalry resulted in the laurea ornamentation in the church's design. The laurea derives from the laureal wreath symbolizing victory and honour. Within the educational institution, the laurea is significant as it represents a post-secondary academic degree. Once an individual graduates, they are crowned with a laurea. Borromini incorporated the flaming laurea above the spiralled cupola in 1652 in response to the rivalling school and to convey the theology of the Divine wisdom. Furthermore, the laurea is repeated within the dome and above the South-East door, intentionally directed toward Collegio Romano.

The spiralled cupola is Sant'Ivo's iconic ornament, embedding the concept of wisdom within its structure. Borromini applied this ornament above the dome, acknowledging the passage Proverbs 4:5-11 from the Old Testament:

Get wisdom, get understanding: forget it not; neither decline from the words of my mouth. Forsake her not, and she shall preserve thee: love her, and she shall keep thee. Wisdom is the principal thing; therefore get wisdom: and with all thy getting get understanding. Exalt her, and she shall promote thee: she shall bring thee to honour, when thou dost embrace her. She shall give to thine head an ornament of grace: a crown of glory shall she deliver to thee. Hear O my son, and receive my sayings; and the years of thy life shall be many. I have taught thee in the way of wisdom; I have lead thee in right paths.<sup>20</sup>

The composite drawing portrays the spiralled cupola as a winding path toward knowledge and wisdom. The curved path, decorated with a trim symbolizing a crown, is located at the top of Sant'Ivo referring to one's head where knowledge is retained. The height and verticality of the spiralled cupola extends toward heaven where the Kingdom of God embodies the Divine wisdom. This ornament embraces the theology of the Divine wisdom.

A thesis produced by Noe Badillo reflects upon the spiralled cupola as it symbolizes the harmony between God, his teachings and architecture:

In Catholic theology, Christ as a carpenter becomes the embodied structure and design of the universe, on the cross on which he not only died, but conquered and ascended. And it is by the dimensions of this cross that the church is measured. Thus, if one can design according to the innermost principles of Christ's body, the architect and mason can align the physical structure of the church with the mystical body of God. And as the world was "created by the word," so it is through language that we arrive at the underlying sacred structure of forms that is the body of God.<sup>21</sup>

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20 KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Proverbs 4:5-11

21 Badillo, Noe. "Chapter 4: Language Beyond Metaphor: The Structural Symbolism of Borromini's Sant'Ivo All Sapiens." In *The Cultural Role of Architecture: Contemporary and Historical Perspectives*, edited by Paul Emmons, John Hendrix, and Jane Lomholt,

Badillo reinforces the power of ornamentation within church architecture as it is an illustration of God. In addition to church ornamentation, within the dome of the Sant'Ivo, stucco sculptures of angels illustrate the reading according to Luke 1:19:

And the angel answering said unto him, I am Gabriel, that stand in the presence of God; and am sent to speak unto thee, and to shew thee these glad tidings.<sup>22</sup>

Borromini situated the angels along the centre of the dome's horizontal axis. This portrays the angels, described by Luke, as a median of communication between heaven and earth. Angels symbolize a human related figure whom express the wisdom of God.

Among the angels in the dome, stars are applied along the vertical axis. This visual is repeated throughout the structure. Two readings from Revelations in the New Testament illustrate the ornamentation of stars:

Revelation 6:13 -And the stars of heaven fell unto earth, even as a fig tree casteth her untimely figs, when she is shaken of a mighty wind.<sup>23</sup>

Revelation 22:16 -I Jesus have sent mine angel to testify unto you these things in the churches. I am the root and the offspring of David, and the bright and morning star.<sup>24</sup>

*Fig. 23. Sant'Ivo's Cupola of Wisdom.*

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39-46. Routledge, Taylor & Francis Group. 20.

22 KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Luke 1:19

23 KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Revelations 6:13.

24 KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Revelations 22:16.



P

Proverbs

4:5-11



Get wisdom, get understanding: forget it not: neither decline from the words of my mouth.

forsake her not, and she shall preserve thee: love her, and she shall keep thee.

Wisdom is the principle thing: therefore get wisdom: and with thy getting get understanding.

Exalt her, and she shall promote thee: she shall bring thee to honour when thou dost embrace her.

She shall give to thine head an ornament of grace: a crown of glory shall she deliver to thee.

Fear of my son, and receive my sayings: and the years of thy life shall be many.

I have taught thee in the way of wisdom: I have led thee in right paths.

The star signifies the travelling of God's light and wisdom onto the earth to be shared with his disciples. The light and wisdom of God is communicated through angels, connecting the two ornamentations. Like San Carlo, Borromini created a portal between heaven and earth to spread the word of God, ultimately conveying the theology of wisdom.



*Fig. 24. Sant'Ivo Alla Sapienza Dome.*

To ensure the concept of the divine wisdom was clearly conveyed within this complex church, Borromini inscribed three verses in Latin from Proverbs 9 within the sacred space. The English translation reads:

Wisdom has built herself a house, she has erected her seven pillars, she has slaughtered her beasts, prepared her wine, she has laid her table. She has dispatched her maid servants and proclaimed from the city's heights: 'Who is ignorant? Let him step this way... come and eat my bread, drink the wine I have prepared!'... The fear of God is the beginning of wisdom... days are multiplied by me [Wisdom] and years of life increased.<sup>25</sup>

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25 *Portoghesi, Paolo. The Rome of Borromini: Architecture as Language. New York:*



Like many Catholic Churches, numerical value is a powerful tool to convey Catholic theology. Louise Rice, in her article *Francesco Borromini: The Pentecostal Meaning of Borromini's Sant'Ivo alla Sapienza*, brings forth the celebration of the Pentecost. The Christian festival celebrates the descent of the Holy Spirit, held on the seventh day after Easter. The number seven is significant in Christianity as the number is referenced in numerous passages throughout the Old and New Testament scriptures including the seven days of creation in Genesis. Rice suggests, "The principal least associated with the Holy Spirit is Pentecost. The link between wisdom and Pentecost is at the root of Borromini's invention."<sup>26</sup> The number seven is expressed in Sant'Ivo as the centre point in the six pointed star geometry of the church's floor plan.

Borromini's San Carlo alle Quattro Fontane and Sant'Ivo alla Sapienza were successful churches in this context because they convey a Catholic message that was appropriate to the churches time and place. The buildings geometry, ornamentation and site location collectively convey a Biblical Scripture that resounded among the parish.

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George Braziller, 1968. 156.

<sup>26</sup> Rice, Louise. *Francesco Borromini: The Pentecostal Meaning of Borromini's Sant'Ivo alla Sapienza*. PDF. Milan: Elemond Editori Associati, 2000. 268.

## 03 DESIGN PROPOSAL

### **Second Vatican Council Architecture**

In 1962, the Second Vatican Council was established by Pope John XXIII to discuss the challenges of the Church in the modern world. Vatican II was a self-evaluation of Catholicism similar to the Counter-Reformation. It addressed numerous concepts including the renewal of religious life, the status of the Church, the use of modern technology for advancement of the gospel, Christian education, relations with non-Christians and Catholic Church architecture.

Steven J. Schloeder's book *Architecture in Communion* explores Church architecture designed in response to Vatican II. These experimental buildings broke with design traditions that extend to the Church's earliest structures. According to Schloeder, this sacred art and architecture created following Vatican II lost its integrity and failed to engage Catholics:



Fig. 25. Vatican II- the "Pastoral Council."

I believe that it is rather a lack of conviction and direction, brought about by theological confusion, that has resulted in liturgical and architectural poverty. 'The bareness of the building reflects the bareness of contemporary theology.' When the Church has been strong and robust and sure of her vision, her architecture has likewise been rich and expressive.<sup>27</sup>

Vatican II influenced Western Church architecture by emphasizing the Church community. Sunday mass transitioned from a silent gathering directed toward the sanctuary to the priest facing the congregation and encouraging community engagement. Traditional Catholic Church architecture illustrated and expressed the Scriptures through ornamentation. Modern Church architecture was transformed by removing much of the

<sup>27</sup> Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. 31.

ornamentation and sacred art and thus the buildings lost its richness and participation in the liturgy.

More than half a century later the Church is again experiencing a crisis that has prompted a critique of these mid-century modern church buildings, questioning their relevance in conveying catholic theology. Schloeder states, “Each age has to find a common ground to reconcile the tension between the need for preserving the faith and the need to make it relevant to contemporary society.”<sup>28</sup> Church design must reflect upon contemporary society while simultaneously serve Church liturgy. Schloeder concludes with a powerful statement for contemporary architects to reflect upon when designing churches, “As the architect is to serve the Church, so architecture is to serve the liturgy.”<sup>29</sup>

Historically, Church buildings were physical representations of the House of God. Schloeder’s critique of modern Church buildings relates to its reference as “the house of God’s people.”<sup>30</sup> Vatican II Church buildings demonstrate numerous alterations from traditional designs. In several church designs, the altar has been moved to the middle of

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28 Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. 11.

29 Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. 42.

30 Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. 10.

the nave allowing Mass to face the congregation, inviting participation. Communion railings have been removed, pews are padded for comfortability or are often replaced by removable chairs. The location of the tabernacle and celebrants chair also vary within these churches. Side altars, statues of saints and sacred art have been removed. Additionally, the altar design now resembles a dining table.

Schloeder argues Church architecture is meant to express the universal values of the Church, “Of all the buildings, the church should speak most clearly to our senses, our intellect, emotions, memory and imagination, our aesthetic sensibility, and our desire for transcendence or ‘search for the infinite.’”<sup>31</sup> Traditional Catholic church architecture has followed a hierarchal plan. The sequence of spaces include the narthex, the nave and the sanctuary. These three components are associated with the created order of the universe, symbolically representing the transition from earth to heaven.<sup>32</sup> Many modern architects have challenged this spacial hierarchy. Schloeder states, “The Body of Christ requires an organic order, which the church building must somehow express the challenge to modern liturgists who are trying to rework the ancient traditions of the assembly.”<sup>33</sup>

31 Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. 48.

32 Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. 55.

33 Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998.

Although many Vatican II churches challenged the linear sequence of the narthex, the nave and the sanctuary, many maintain this hierarchael sequence.differentiating these spaces by elevation or a threshold.

### **Critique of Saint Timothy's Parish Church**

Saint Timothy's Parish Church in the Town of Orangeville, Ontario is an example of a Vatican II Church building. Constructed in 1969, the church floor plan represents a traditional narthex - nave - sanctuary sequence. However, within the nave, there is minimal sacred art and an absense of ornamentation. This results in the congregations lack of spiritual reflection and engagement with the Scriptures. Above the sanctuary, a wooden carving of Jesus on the cross is hung. This ornamental figure is the only Catholic theological artifact facing the congregation. Parishoners located at the back of the church look toward this figure. However, due to the position of the cross and lack of ornamentation for the congregation to reflect upon, individuals toward the front of the nave look down to their feet or keep their eyes closed to avoid straining their neck. Additionally, the artificial lighting in the nave distracts the ritual of mass from an emotional and sensorial experience. The lighting conditions and void of sacred art prevent the church from conveying and experiencing the richness of Catholic theology. While many of the Vatican II



*Fig. 26. Saint Timothy's Parish, 14 Stations of the Cross Iconography.*

*Fig. 27. Exterior of Saint Timothy's Parish (Page 68).*

*Fig. 28. Nave of Saint Timothy's Parish (Page 69).*

experimental church designs resulted in remarkable church buildings that positively serve their communities, Schloeder points to legitimate concerns as they relate to these modern buildings success in connecting with worshipers, Saint Timothy's Church included. The challenges facing the Church today require not a return to traditional buildings, but an architectural response that both critiques and builds upon Vatican II Church designs.

### **Building/Site Proposal**

This architectural design proposal explores design concepts drawn from Borromini's Counter-Reformation architecture, translating and applying these design principles toward addressing the downsizing Catholic Church. The architectural project is intended to relocate and replace the existing under-utilized Saint Timothy's









Parish church.

In the Town of Orangeville, seventy percent of its approximately 30 000 residence identify as Christians, and fourty percent are members of the Catholic Church.<sup>34</sup> Similar to Richard Lennan's observations of declining church attendance throughout North America, St Timothy's Parish has decreased significantly over the past decade.



Fig. 29. Greater Toronto Area Map.

The design proposal offers a new small contemporary Catholic church design with reference to Borromini's technique of synthesizing Catholic Scripture, ornament and architectural geometry.

#### An appropriate site location and additional programming

<sup>34</sup> Statistics Canada. 2017. Orangeville [Population centre], Ontario and Alberta [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. <https://www12.statcan.gc.ca/census-re-censement/2016/dp-pd/prof/index.cfm?Lang=E> (accessed January 2, 2019).

to the Church are determined through in depth analysis. Influential factors include the town’s demographics and zoning, the Archdiocese of Toronto’s mission statement and Saint Timothy’s mission statement. A primary question to consider when selecting a building site is: does St. Timothy’s community reside in Orangeville, or do people commute from surrounding towns?

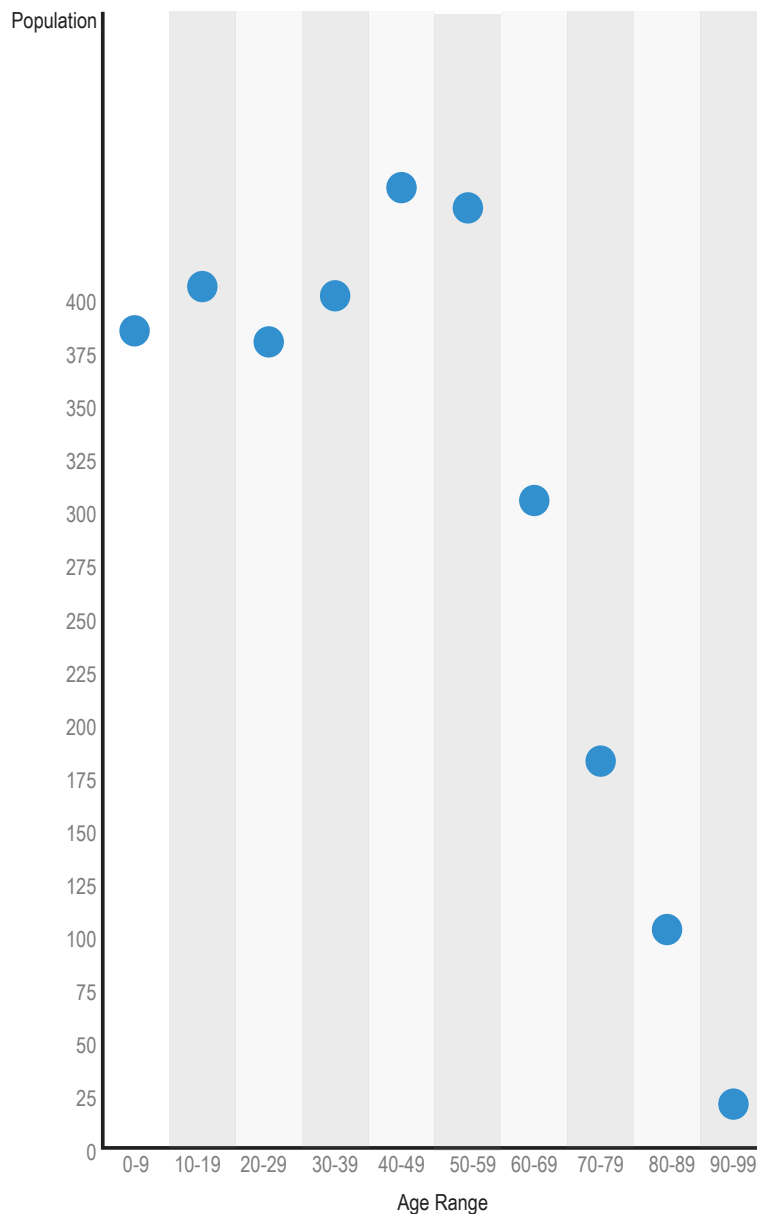


Fig. 30. Orangeville Demographics Graph.

## **Town History**

The Town of Orangeville is located approximately 80 kilometres north-west of Toronto. Establishment began in 1830 as settlers erected several mills along the Credit River. The town was named after Orange Lawrence, an American community developer. He provided the town with a general store, tavern, mill and the first school. Orangeville continued its development by incorporating the Toronto, Grey & Bruce Railway (TG&B).

Today, Orangeville is known as a “bedroom community” for the Greater Toronto Area. It is located off Highway 10 (Huron Street) which extends into Highway 410.<sup>35</sup> The close proximity to the highway enables many individuals to commute to the Greater Toronto Area for employment opportunities. The town occupies 15.61 squared kilometres and is surrounded by farm land and small neighbouring communities.

According to Statistics Canada 2016 census, ninety-six and one half percent of the community speaks English.<sup>36</sup> The population of approximately 30,000 is primarily composed of the working class. In 2016, there were 20,485 individuals between the ages of fifteen to sixty-

<sup>35</sup> “History.” Town of Orangeville, Ontario, Canada. Accessed January 02, 2019. <https://www.orangeville.ca/>.

<sup>36</sup> Statistics Canada. 2017. Orangeville [Population centre], Ontario and Alberta [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. <https://www12.statcan.gc.ca/census-re-censement/2016/dp-pd/prof/index.cfm?Lang=E> (accessed January 2, 2019).

four.<sup>37</sup> Approximately 5,800 inhabitants were between the ages of zero to fourteen and 4,440 over the age of sixty-five.<sup>38</sup> As previously mentioned, 21,700 individuals within Orangeville designate themselves as Christians, and of this 8,680 individuals are Roman Catholics.

### **Accessibility and Zoning**

Surrounded by agricultural land, there are numerous routes to approach Orangeville. There are concessional roads and main country highway routes including Highway 10, Highway 9 and County Road 109. These country highways are the major arteries enclosing the town. They extend to adjacent communities including Caledon, the Town of Mono and Grand Valley. These major routes determine common points of entry into Orangeville. They are also significant when determining a location for a new contemporary church addressing those who need to commute into town to participate in mass.

Orangeville is composed of five zoning sectors including commercial, industrial, institutional, residential and open space. Currently, it is zoned primarily as residential which expands from the main arterial road, Broadway. Residential

37 Statistics Canada. 2017. Orangeville [Population centre], Ontario and Alberta [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. <https://www12.statcan.gc.ca/census-re-censement/2016/dp-pd/prof/index.cfmLang=E> (accessed January 2, 2019).

38 Statistics Canada. 2017. Orangeville [Population centre], Ontario and Alberta [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. <https://www12.statcan.gc.ca/census-re-censement/2016/dp-pd/prof/index.cfmLang=E> (accessed January 2, 2019).

sectors branch outward from Broadway, introducing institutional zoning. Commercial zoning is focused along Broadway and immediately adjacent to Highway 10. The zoning map illustrates a large central section of industrial space (Figure 30). This was approximately the extent of Orangeville's development until the County Road 109 bypass opened in 2005. The bypass resulted in further development in the West end.

Orangeville has a 20-year Community Improvement Plan. This plan redirects zoning sectors to improve the quality of the neighbourhood.<sup>39</sup> The goal of the Community Improvement Plan is, "To support the maintenance and rehabilitation of existing buildings and property, and to promote the logical infilling of existing residential neighbourhoods, in order to extend the useful life of individual properties and improve neighbourhood quality."<sup>40</sup> Section D5.2.3-4 of this document states the encouragement and support of private efforts to rehabilitate/redevelop property, improve social services and construct new facilities as required.<sup>41</sup> Section D5.3.1(c) states Orangeville's determination to improve

<sup>39</sup> "Orangeville Zoning By-law 22-90." Town of Orangeville, Ontario, Canada. Accessed January 02, 2019. <https://www.orangeville.ca/>. 18.

<sup>40</sup> "Orangeville Zoning By-law 22-90." Town of Orangeville, Ontario, Canada. Accessed January 02, 2019. <https://www.orangeville.ca/>. 18.

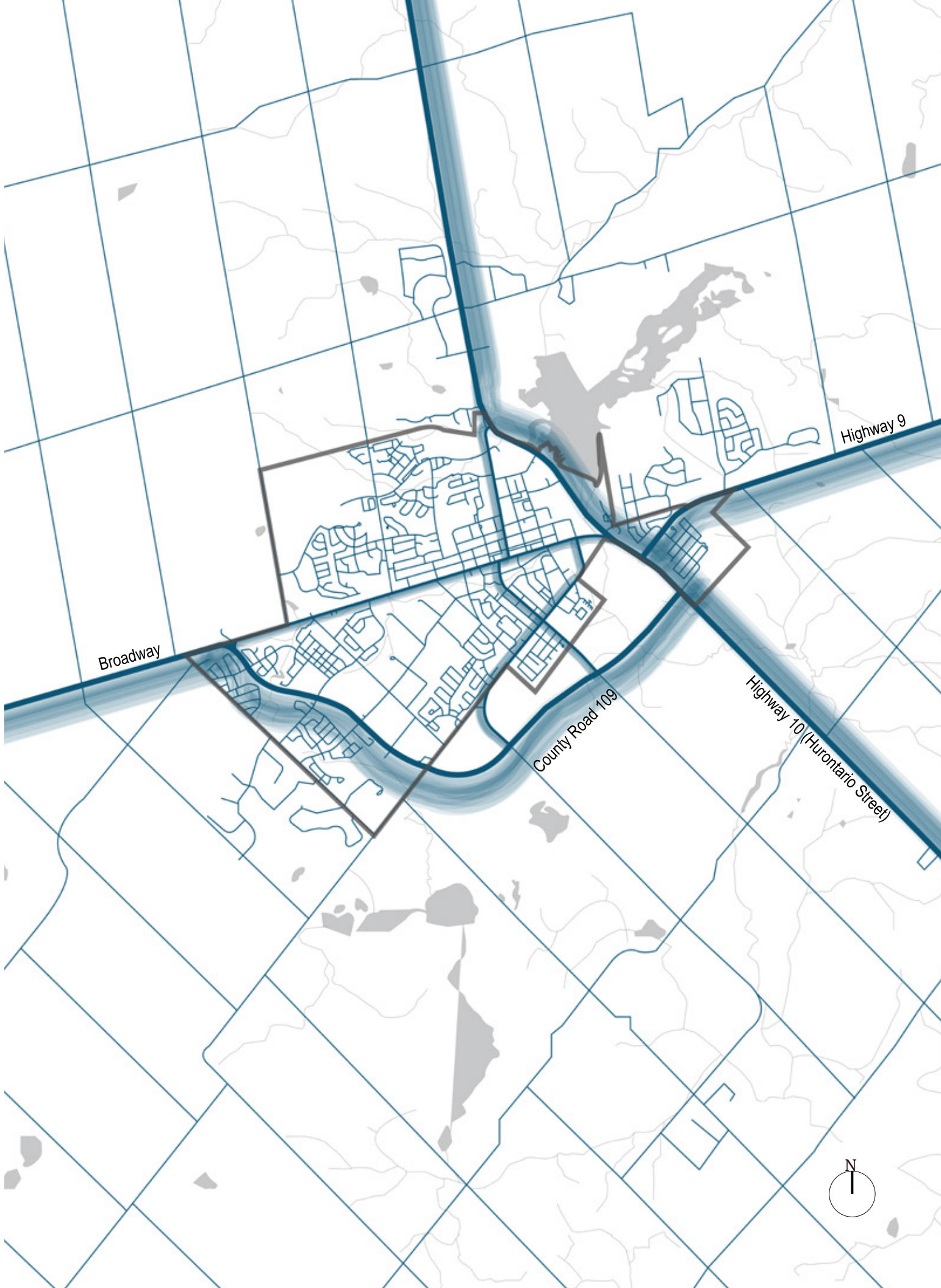
<sup>41</sup> "Orangeville Zoning By-law 22-90." Town of Orangeville, Ontario, Canada. Accessed January 02, 2019. <https://www.orangeville.ca/>.

Fig. 31. Orangeville Road Map (Page 75).

Fig. 32. Current Orangeville Zoning Map (Page 76).

Fig. 33. Orangeville 20 Year Plan Zoning Map (Page 77).



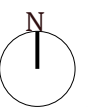


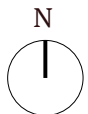
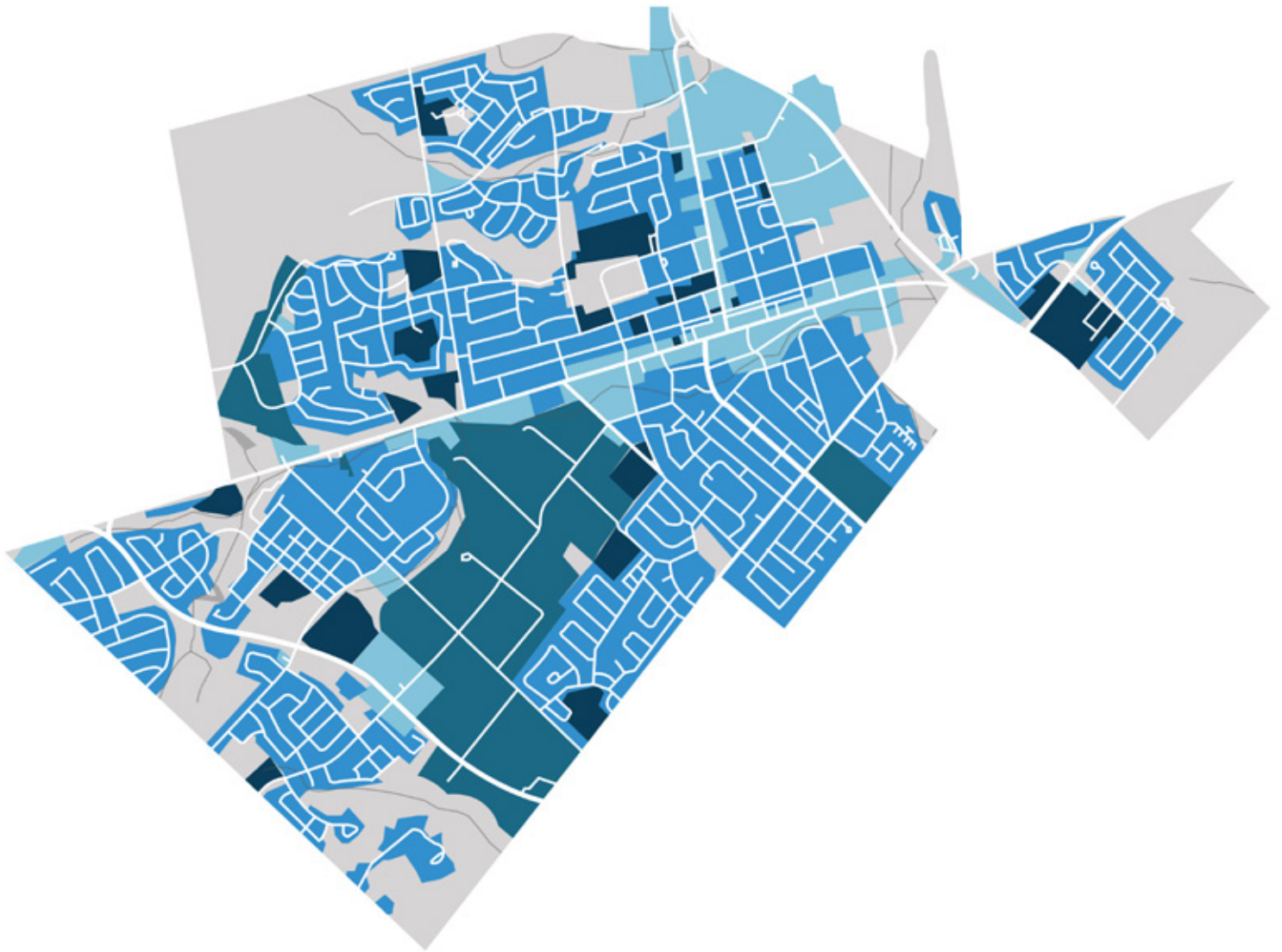
Broadway

Highway 9






County Road 109

Highway 10 (Huronario Street)

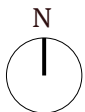
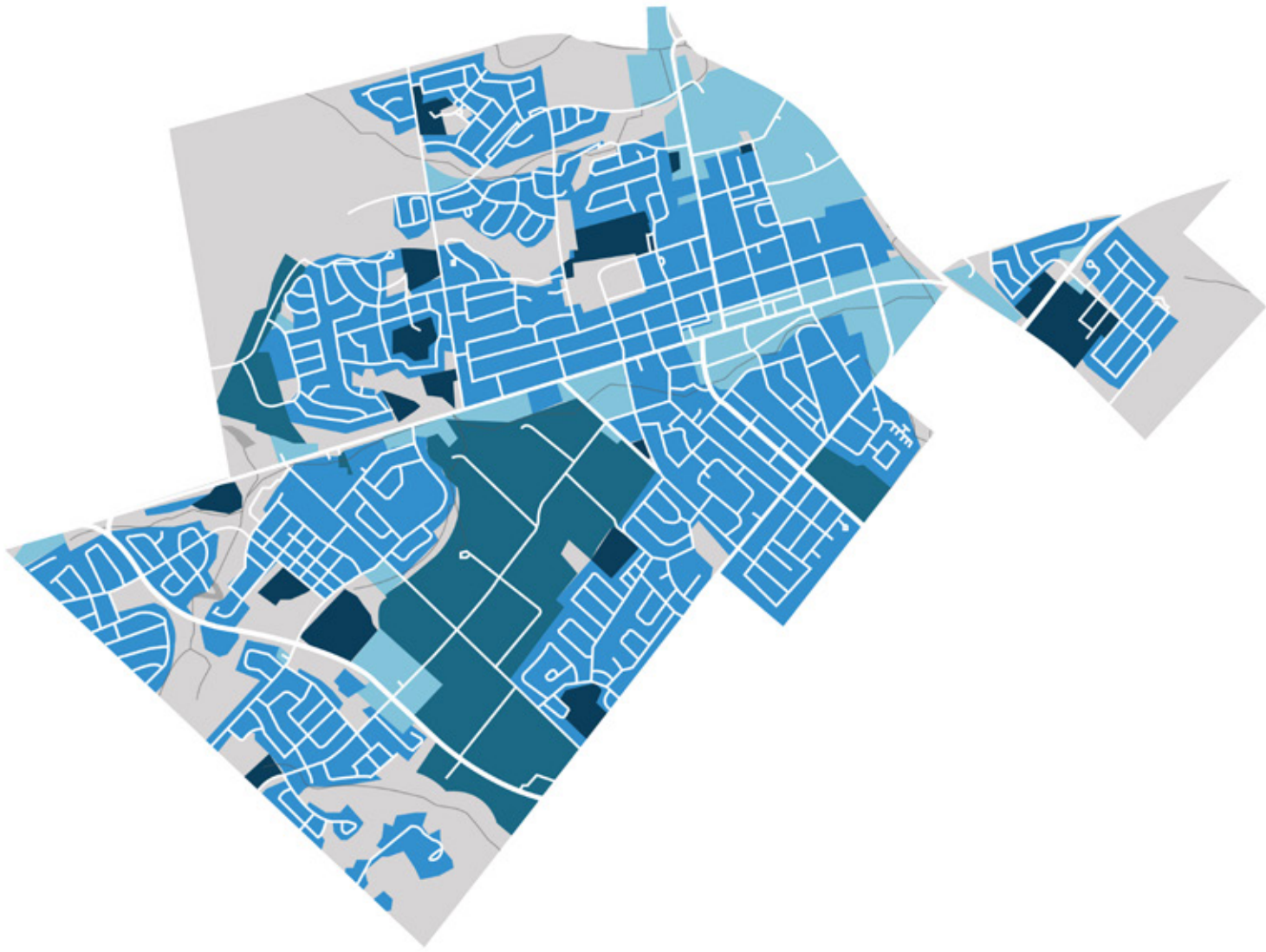




### Legend

-  Residential
-  Commercial
-  Institutional
-  Industrial
-  Open Space





Legend

- Residential
- Commercial
- Institutional
- Industrial
- Open Space

cultural facilities in order to meet residential criteria.<sup>42</sup> Comparing the two zoning maps, the commercial zoning shifts East towards Highway 9 and 10 for accessibility while many smaller zones surrounding Broadway will transition into residential zoning (Refer to Figures 28 and 29).

### **Church Programming**

Traditionally, Catholic churches are composed of three essential spaces. As previously mentioned, these spaces in chronological order are the narthex, the nave and the sanctuary. The narthex is an entrance space, commonly found at the West end of the church. Proceeding through a threshold is the nave where the congregation is seated for mass. Continuing traditionally to the East is the sanctuary where the Priest is situated and the celebration of mass is performed. Prior to Vatican II, the sanctuary was elevated several steps above the nave to emphasize the sanctuary's importance. Since the new council, many modern church sanctuaries have been redesigned to be level with the congregation, thus embracing the concept of community.

The design proposal for this architectural thesis is a small contemporary Catholic Church. The nave will hold a congregation of seventy-five individuals with an additional five people performing the mass. This design will continue the Catholic architectural tradition of incorporating a

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<sup>42</sup> "Orangeville Zoning By-law 22-90." Town of Orangeville, Ontario, Canada. Accessed January 02, 2019. <https://www.orangeville.ca/>.

narthex, nave and sanctuary. However, many modern and contemporary architects have challenged the classic linear design. This approach to design further challenges the hierarchy in the Church organization. The proposed church program will include a narthex, nave, sanctuary, office, dining hall, kitchen, washrooms, and an outdoor 'room' for informal social gatherings.

These amenities cover the basic necessities for the functioning of a Catholic Church. A dining hall, kitchen and outdoor amenities are programs promoting communal interaction. Creating an open and welcoming environment is essential for the Catholic Church in its current state of peril. The architectural program is intended to assist the Church through healing and renewal.

The Catholic Church is confronting numerous conflicts. Challenges include the decline in Church attendance and the negative Church involvement with young people. Countless allegations have come forth of Catholic Priest misconduct with the youth. In order to revive the Catholic Church, architects must create ways to re-introduce the youth by designing open environments. Developing outdoor spaces for youth to gather during LifeTeen meetings and for Sunday School during warmer months creates an opportunity for children to reconnect to the faith. An outdoor space further enables people to gather

while reflecting upon God's creation.

### **Archdiocese of Toronto Mission:**

The design of Borromini's San Carlo and Sant'Ivo began with an understanding of his clients and their mission. From this information, he was able to extract passages from the Scriptures relating to the building site and conveying the Scripture through ornament and geometry. The strong connection between these components generate an effective expression of theology.

The current Catholic Church in Orangeville is associated with the Archdiocese of Toronto. According to the Archbishop of Toronto, Thomas Cardinal Collins, the fundamental Pastoral Plan for the Archdiocese of Toronto is to delve into deeply rooted prayer. Currently, Catholicism is in the moment of self-reflection. There is hope to engage families, mainly the youth, to celebrate cultural diversity, communicate and to use resources wisely.<sup>43</sup> Orangeville is within the organization the Archdiocese of Toronto, therefore integrating their two fold mission:

Our pastoral (inward) mission is to nurture and strengthen the faith experience of committed Catholics, drawing on the model of St. Peter, to whom Jesus said, "Feed my lambs." Our apostolic (outward) mission is to announce the Gospel, both to the faithful and to those outside the Church. Our model for this effort is St. Paul, who first encountered Christ through conversion and then proclaimed Him throughout the world.<sup>44</sup>

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43 "Archdiocese of Toronto." Archdiocese of Toronto. Accessed January 02, 2019. <https://www.archtoronto.org/>.

44 "Archdiocese of Toronto." Archdiocese of Toronto. Accessed January 02, 2019.

In order to renew the Catholic Church, it is essential to refresh the religious followers of the Catholic beliefs and values.

### **Saint Timothy's Parish**

Saint Timothy's Parish is dedicated to Saint Timothy, a witness to the first preaching of the Gospel in Europe. The Parish's website focuses on the Seven Sacraments which they define as, "A sacrament is a visible sign, instituted by Christ, to give grace."<sup>45</sup> The Sacraments are God's purpose for giving life, for his disciples to fulfil and share his grace. The sacraments include baptism, confirmation, the eucharist, reconciliation, marriage, anointing the sick, and performing holy orders.

### **Passages Relevant to the Church Today**

The scriptures provide insight on God's teachings establishing morals and values. The Bible illustrates interactions and confrontations, and through this darkness, God will show the light. Acts 2:40-47 is a significant passage as it relates to the current state of the Church:

Acts 2:40-47 -And with many other words did he testify and exhort, saying, Save yourselves from this untoward generation. / Then they that gladly received his word were baptized: and the same day there were added unto them about three thousand souls. / And they continued stedfastly in the apostles' doctrine and fellowship, and in breaking of bread, and in prayers. / And fear came upon every soul: and many wonders and signs were done by the apostles. / And all that

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<https://www.archtoronto.org/>.

<sup>45</sup> "Sacraments." St. Timothy Church. Accessed January 15, 2019. <http://sttimothy-church.ca/sacraments/>.

believed were together, and had all things common; / And sold their possessions and goods, and parted them to all men, as every man had need. / And they, continuing daily with one accord in the temple, and breaking bread from house to house, did eat their meat with gladness and singleness of heart, / Praising God, and having favour with all the people. And the Lord added to the church daily such as should be saved.<sup>46</sup>

Similar to the generation at the time the Acts was written, today there are aspects of the Church that is corrupt. This passage provides insight into how the Church may respond to such issues as declining Church attendance. It is necessary that Catholics strengthen their community through social interaction, praying and accepting Jesus Christ. Through acts of grace and attendance of church, the community is able to rekindle what it means to be a Catholic.

The book of Hebrews provides a passage in direct relation to the downsizing Catholic Church in North America:

Hebrews 10:19-39 - Having therefore, brethren, boldness to enter into the holiest by the blood of Jesus, / By a new and living way, which he hath consecrated for us, through the veil, that is to say, his flesh; / And having an high priest over the house of God; / Let us draw near with a true heart in full assurance of faith, having our hearts sprinkled from an evil conscience, and our bodies washed with pure water. / Let us hold fast the profession of our faith without wavering; (for he is faithful that promised;) / And let us consider one another to provoke unto love and to good works: / Not forsaking the assembling of ourselves together, as the manner of some is; but exhorting one another: and so much the more, as ye see the day approaching. / For if we sin wilfully after that we have received the knowledge of the truth, there remaineth no more sacrifice for sins, / But a certain fearful looking for of judgment and fiery indignation, which shall devour the adversaries. / He that despised Moses' law died without mercy under two or three witnesses: / Of how much sorer punishment, suppose ye, shall he be thought worthy, who hath trodden under foot the Son of God, and hath counted the blood of

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46

*KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Acts 2:40-47.*

the covenant, wherewith he was sanctified, an unholy thing, and hath done despite unto the Spirit of grace? / For we know him that hath said, Vengeance belongeth unto me, I will recompense, saith the Lord. And again, The Lord shall judge his people. / It is a fearful thing to fall into the hands of the living God. / But call to remembrance the former days, in which, after ye were illuminated, ye endured a great fight of afflictions; / Partly, whilst ye were made a gazingstock both by reproaches and afflictions; and partly, whilst ye became companions of them that were so used. / For ye had compassion of me in my bonds, and took joyfully the spoiling of your goods, knowing in yourselves that ye have in heaven a better and an enduring substance. / Cast not away therefore your confidence, which hath great recompense of reward. / For ye have need of patience, that, after ye have done the will of God, ye might receive the promise. / For yet a little while, and he that shall come will come, and will not tarry. / Now the just shall live by faith: but if any man draw back, my soul shall have no pleasure in him. / But we are not of them who draw back unto perdition; but of them that believe to the saving of the soul.<sup>47</sup>

The reading suggests a potential solution in addressing the issue of decline church attendance in North America. In order to preserve the faith, the seven sacraments must be fulfilled. The sacraments introduce people to the faith, cleansing those of a guilty conscience through confession and their souls through baptism. Catholics must spread love among those deserving and undeserving therefore enacting the grace of God. While it is imperative to encourage one another, many Catholics are neglecting to gather and share their beliefs.

### **Proposed Theology**

Extracted from the mission statements of the Archdiocese of Toronto, Saint Timothy's Parish and significant passages from the scriptures are four reoccurring themes. These themes are prayer, community, grace and sacraments.

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<sup>47</sup> KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Hebrews 10:19-39

Analysis of these themes indicate they are all interconnected by the actions of Catholics. Prayer, community and sacraments are three expressions of how to receive God's grace of salvation, through the performance of grace.

Unfortunately, these passages also proclaim the lack of true grace. Catholics are performing acts of kindness and helping others out of debt. The true act of grace is performed, not expecting something in return other than God's salvation. Similar to how individuals are imperfect, as is the Catholic Church. The community needs to be forgiven and from sins in order to progress towards healing. Mentioned in Hebrews 14:49-53, baptism is the act of purifying from sins. This draws the concept of the Baptism to be the underlying theology for a new contemporary Catholic Church in Orangeville.

### **Site Analysis**

The site for the proposed contemporary church is toward the North end of Orangeville, along Hansen Boulevard. This site is situated at the edge of a residential development, enclosed by greenery. The rectangular site has a frontage of 150 metres, and a depth of approximately 300 metres, expanding into the forest.

*Fig. 34. Orangeville Map (Page 85).*



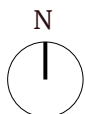
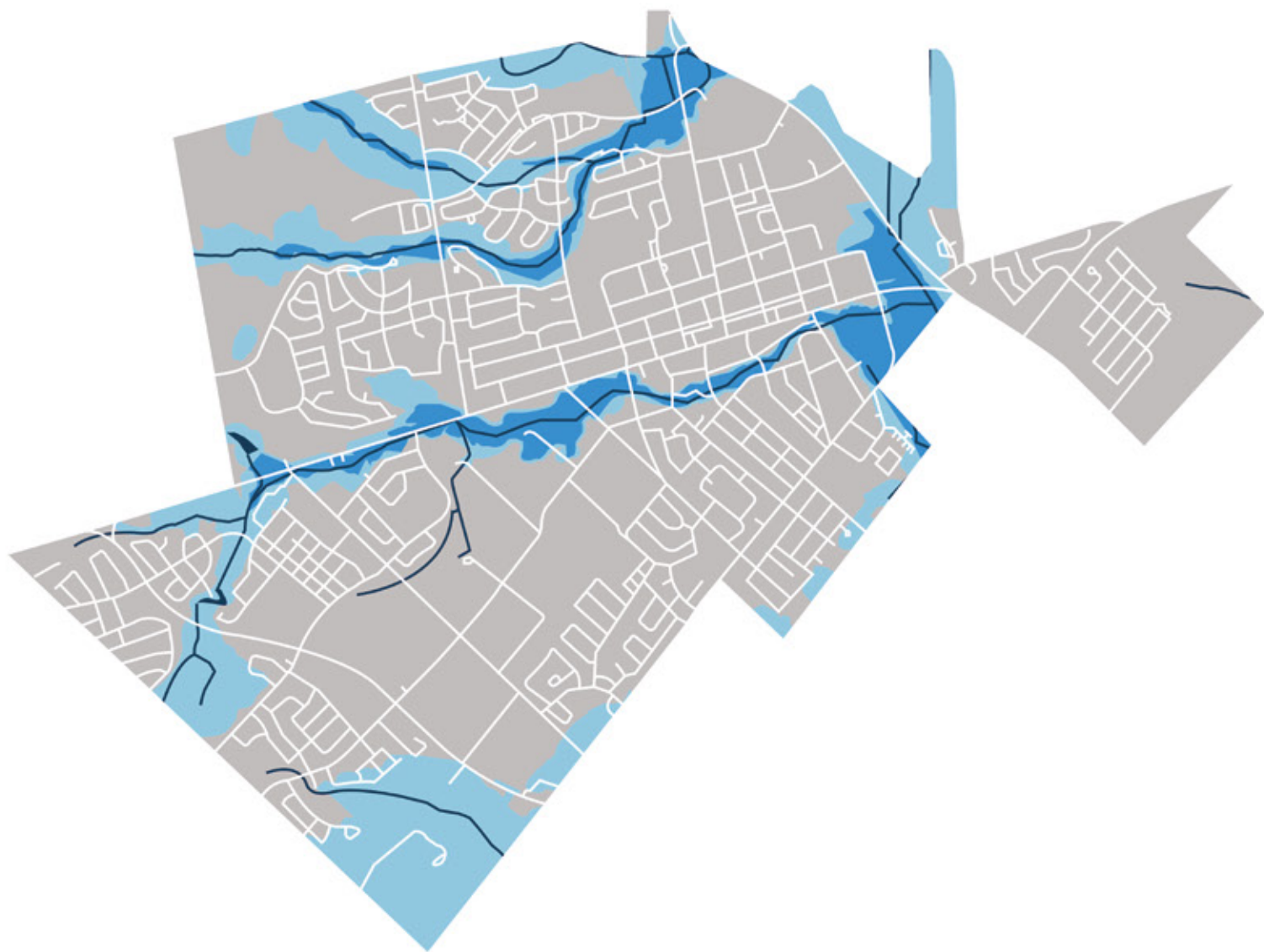
Proposed Site






A church situated in close proximity to residences is an important consideration in hopes of attracting Catholics to participate in Church. Commonly, Catholic Churches house the Priest in close proximity to the church, typically within the church building or on an adjacent lot. The adjacent neighbourhood to the church would be an appropriate place for the Priest to reside. Having a Priest among the community as a neighbour rather than in isolation will assist in welcoming people into the Church.

Toward the North-East Orangeville boarder, Island Lake connects to rivers running throughout the town. Along these rivers, many locations are susceptible to flooding, therefore the town has developed residential areas in response to flood zones. The site on Hansen Boulevard is currently an open field which is one of the few open sites semi-free from flooding. However, within the northern forest, a river flows through that is susceptible to occasional flooding. The site's partial flooding during spring time responds to the theology of baptism. Individuals within the Church are baptized and cleansed from sins. Occasionally, the Catholic Church also must experience the purification ritual. The natural landscape will perform a metaphor of purification when the flood waters draw near to the church.

*Fig. 35. Orangeville Flood Zoning Map (Page 87).*



### Legend

-  Rivers
-  Flood Zone
-  100 Year Flood Plain

Accessibility is another consideration for the site. The site is approximately one kilometre from Highway 10, a major commuting route. This will enable direct access for commuters coming from various small towns. Additionally, this site is exposed to open fields for approximately 300 metres toward the East. This will enable natural sunlight to fall into the church.

### **Site**

The architectural idea of the proposed contemporary Catholic Church is baptism. The act of purification is a progression towards renewal. Implementing design concepts drawn from Borromini's churches, the site will endorse the theology of the church.

The Northern forest will expand over the entire site, replanting the land to its original state, prior to becoming farmland. This symbolizes the renewal of the Catholic Church. The site is accessed from Hansen Boulevard, first greeted by a forest enclosed parking lot. Upon entering the parking lot, the driveway shifts from the main road asphalt to flagstone. This transition in material is a metaphorical threshold to the entrance of the Church. There are three sections of parking organized in a one lane-way triangular form. Each section has a continued flagstoned pathway inviting people to experience the forest. The paths wander through the forest, extending toward the church building.



Fig. 36. Proposed Site and Context.

Beyond the building, the paths continue transforming into a dirt trail inviting further exploration.

Iconographic depictions of the Fourteen Stations of the Cross are typically found within the interior of the church. They are a sequential series of art works depicting the story of Jesus' crucifixion. The various paths on the site emphasizing exploration and reflection invite the Fourteen Stations of the Cross to be displayed. In Orangeville, the Art Walk of Tree Sculptures is a series over fifty of tree carvings throughout the town, each expressing a story.<sup>48</sup> This public art gallery has been attracting attention from locals and visitors since 2003.<sup>49</sup> There are currently eighteen carvers who display their work throughout the town.<sup>50</sup> This art

<sup>48</sup> "Art Walk of Tree Sculptures." Orangeville Tourism. January 17, 2019. Accessed March 20, 2019. <https://www.orangevilletourism.ca/attraction/art-walk-of-tree-sculptures/>.

<sup>49</sup> "Art Walk of Tree Sculptures." Orangeville Tourism. January 17, 2019. Accessed March 20, 2019. <https://www.orangevilletourism.ca/attraction/art-walk-of-tree-sculptures/>.

<sup>50</sup> "Art Walk of Tree Sculptures." Orangeville Tourism. January 17, 2019. Accessed March 20, 2019. <https://www.orangevilletourism.ca/attraction/art-walk-of-tree-sculptures/>.

walk invites exploration, therefore engaging the carvers to expand the gallery into the Church site portraying the story of the Fourteen Stations of the Cross encourages both Catholics and non-Catholics to discover the site.

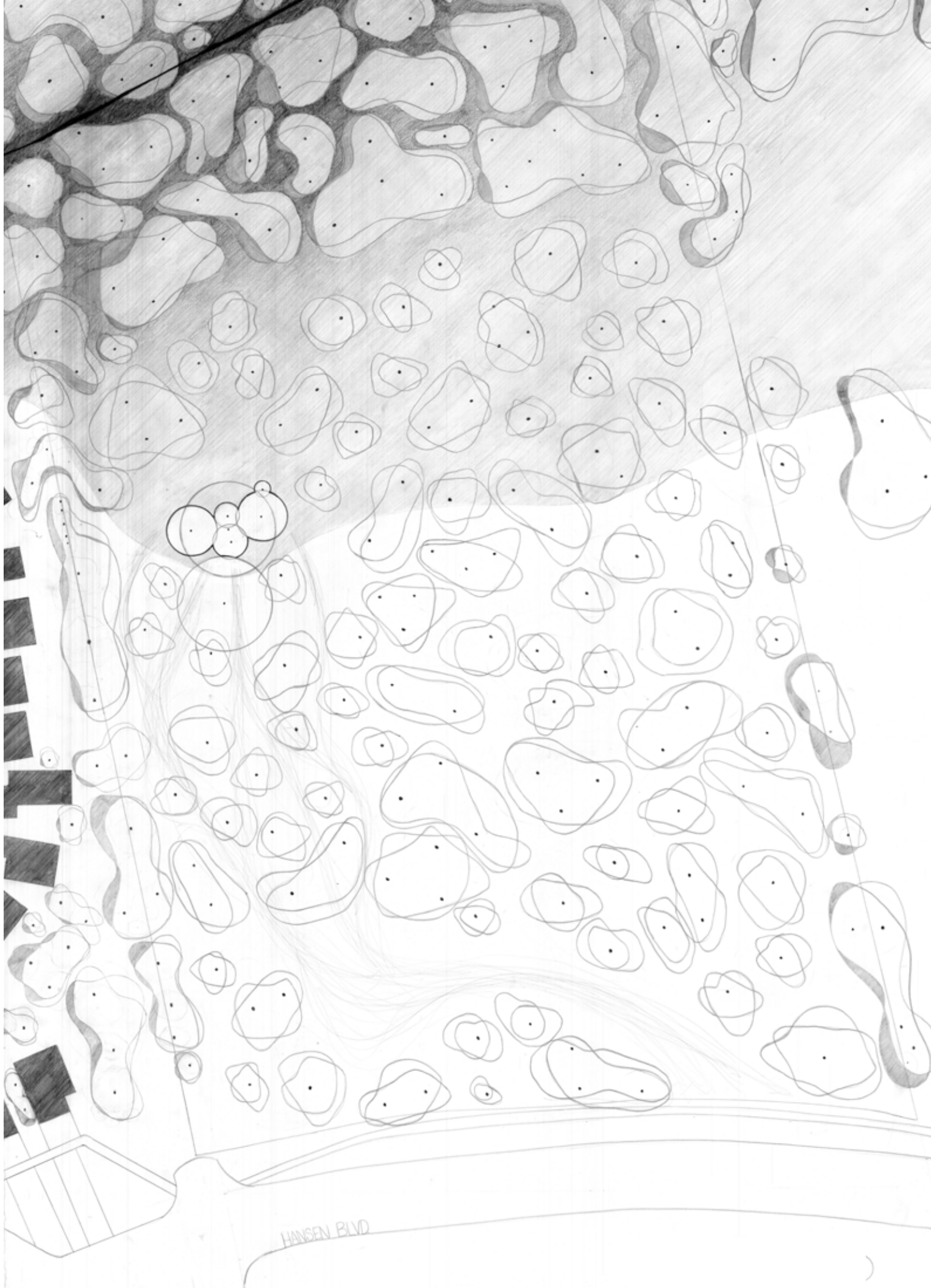
The church is positioned toward the North end of the site along the one-hundred year flood plain. This boundary is a metaphorical threshold bringing the congregation into the theology of baptism. Once passed this threshold, centred on the outdoor patio, the site's topography gradually reseeds toward the river. In section, the church building remains level as the ground tapers down. The elevated church invites the flood water to approach and enclose the church symbolizing the act of purification. As previously mentioned, the Church needs to be cleansed from sins along with its disciples.

### **Geometry**

The proposed church design interprets the theology of baptism and the ritual for cleansing sins. Similar to Borromini, the geometry reflects upon a passage from the Scriptures which further contributes to the building's ornamentation. The passage from Leviticus 14:49-53 reads:

And he shall take to cleanse the house two birds, and cedar wood, and scarlet, and hyssop: / And he shall kill the one of the birds in an earthen vessel over running water: / And he shall take the cedar wood, and the hyssop, and the scarlet, and the living bird, and dip them in the blood of the slain bird, and in the running water, and sprinkle the house seven times: / And he shall cleanse the house with the blood of the bird, and with the running water, and with the living bird, and with





*Fig. 37. Conceptual Site Plan Analysis (Page 91).*

*Fig. 38. Site Plan (Page 93).*





HANSEN BLVD

the cedar wood, and with the hyssop, and with the scarlet: / But he shall let go the living bird out of the city into the open fields, and make an atonement for the house: and it shall be clean.<sup>51</sup>

An excerpt from this passage “sprinkle the house seven times”<sup>52</sup> is translated in the design process of architectural geometry. The number seven is highly significant within Catholicism. It is referred to several times throughout the Bible, including the seven days of creation. The passage is translated through composite drawings articulating architectural elements for the design of the contemporary church (Figure 46). The passage explains the cleansing of the house with sacred water. In baptismal fonts, ripples of water emerge as people are submerged, cleansing from sins. Ripples of water expand into various diameters from a central source impacting the water. Once intersecting with another ripple source, patterns created.

A composite drawing of seven water droplets and ripples developed into a geometric study (Figure 39) . With prior knowledge of generating Vesica Pisces star patterns began the organization of creating seven points within a circular geometry. The first iteration was a circular geometry developing a heptagon. A heptagon is a seven pointed figure, therefore these points become the central sources for the ripple effects. From this, offsetting circles enable intersections creating biangolos. From drawing analysis,

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51 KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Leviticus 14:49-53.

52 KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Leviticus 14:51.

these various diameter circles invite the opportunity for potential building forms to surface. Developing from the heptagon, a hexagram was tested, with the centre of the original circle as the seventh point. These design investigations offer potential underlying architectural geometries of the contemporary church building.

The geometric patterns emerging from the heptagon and hexagon produced various symmetrical and organized potential plans that did not reflect the organic nature of a regrown forest. The geometry developed into the study of sequences of space within a Catholic church. This created a progression of spaces including the narthex, the nave and the sanctuary while challenging the traditional linear plan. The analysis inspired an underlying geometry for the contemporary church design which used prior knowledge of the Vesica Piscis and star pattern geometry to organize the seven spaces (Figure 41). The geometry contains seven overlapping circles varying in diameter, responding to their function. Each circle represents a droplet of water allowing the architecture to participate in the cleansing of the Catholic Church.

The spaces in the design include the entrance, the narthex, the nave, the sanctuary, office, dining hall and kitchen. Although the narthex, nave and sanctuary follow a chronological order, the plan challenges the linear design.

## Ornamentation

Informed by Francesco Borromini's two churches San Carlo alle Quattro Fontane and Sant'Ivo alla Sapienza, ornamentation directly translates from the Scriptures, relating to geometry and the site. The passage from Hebrews 10:19-22 is a response for the Catholic Church regarding implications to its down sizing:

Having therefore, brethren, boldness to enter into the holiest by the blood of Jesus, / By a new and living way, which he hath consecrated for us, through the veil, that is to say, his flesh; / And having an high priest over the house of God; / Let us draw near with a true heart in full assurance of faith, having our hearts sprinkled from an evil conscience, and our bodies washed with pure water.<sup>53</sup>

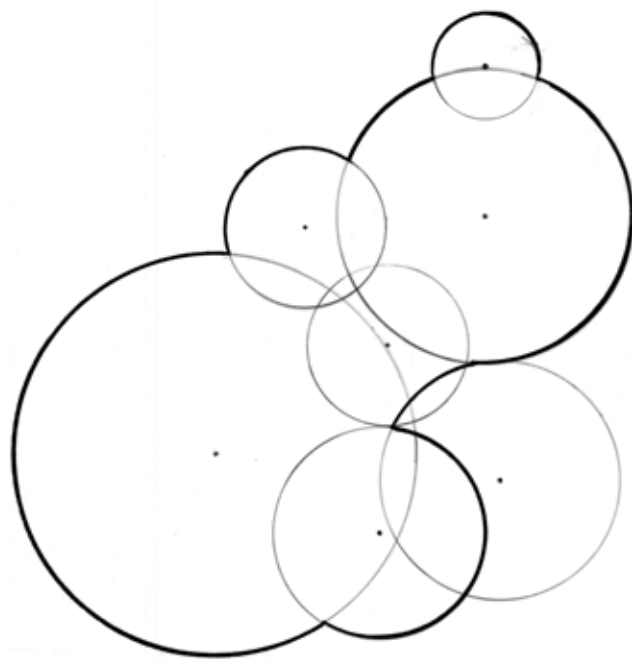
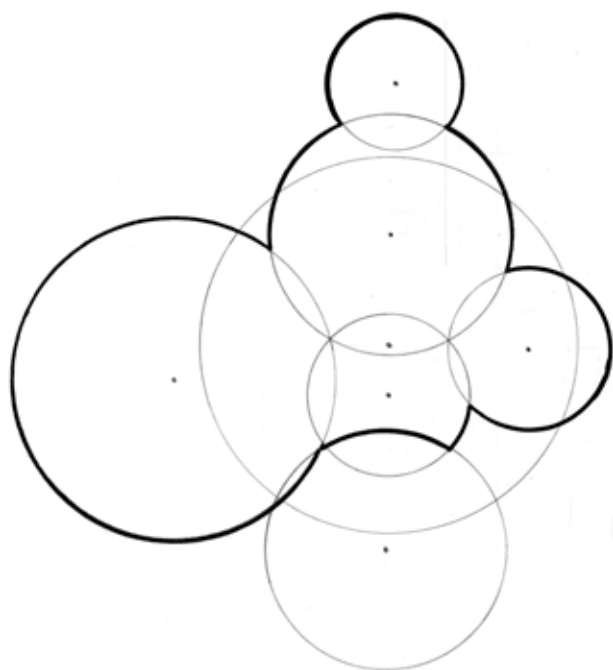
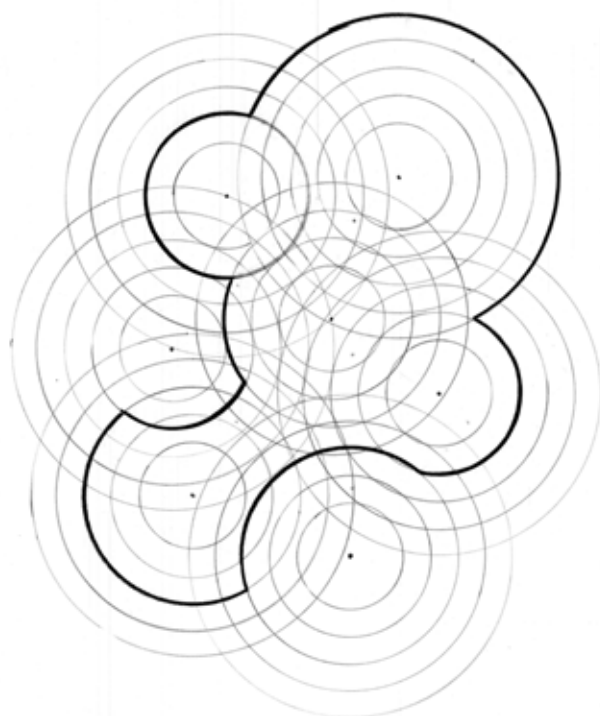
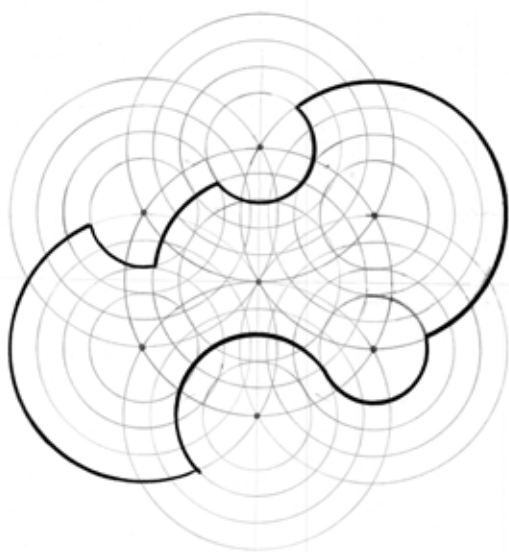
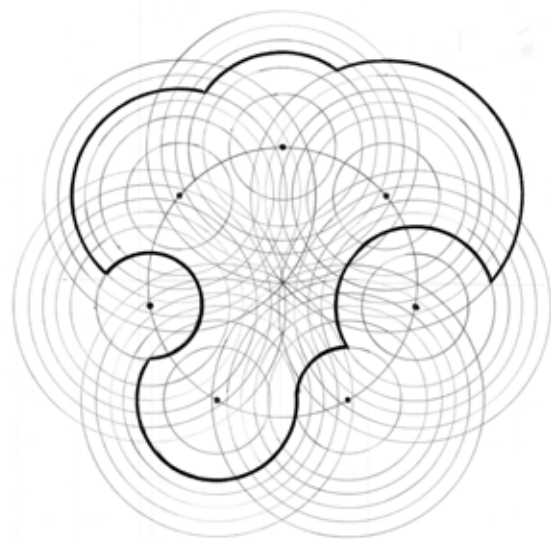
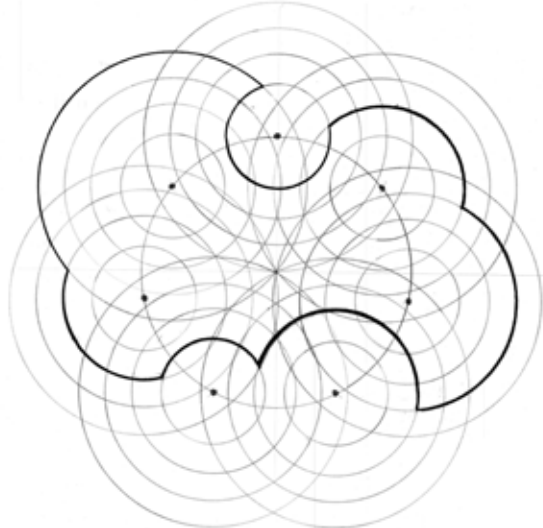
This passage illustrates the necessary procedures to begin the revival of the Catholic faith. The thesis design proposal of a contemporary church extracts and utilizes the theology of purification through baptism. This concept is translated into the ornamentation of the church.

Developing composite drawings reflecting upon the text begins the initial stages of design. The Holiest place referred to in the passage is Herod's Temple in Jerusalem, the sacred place guarding the Ten Commandments (Refer to Figure 43). This ancient temple was the foundation for majority of Catholic Church architectural ground plans.

The sequence of spaces began in the narthex, continuing

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<sup>53</sup> KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Hebrews 10:19-22.



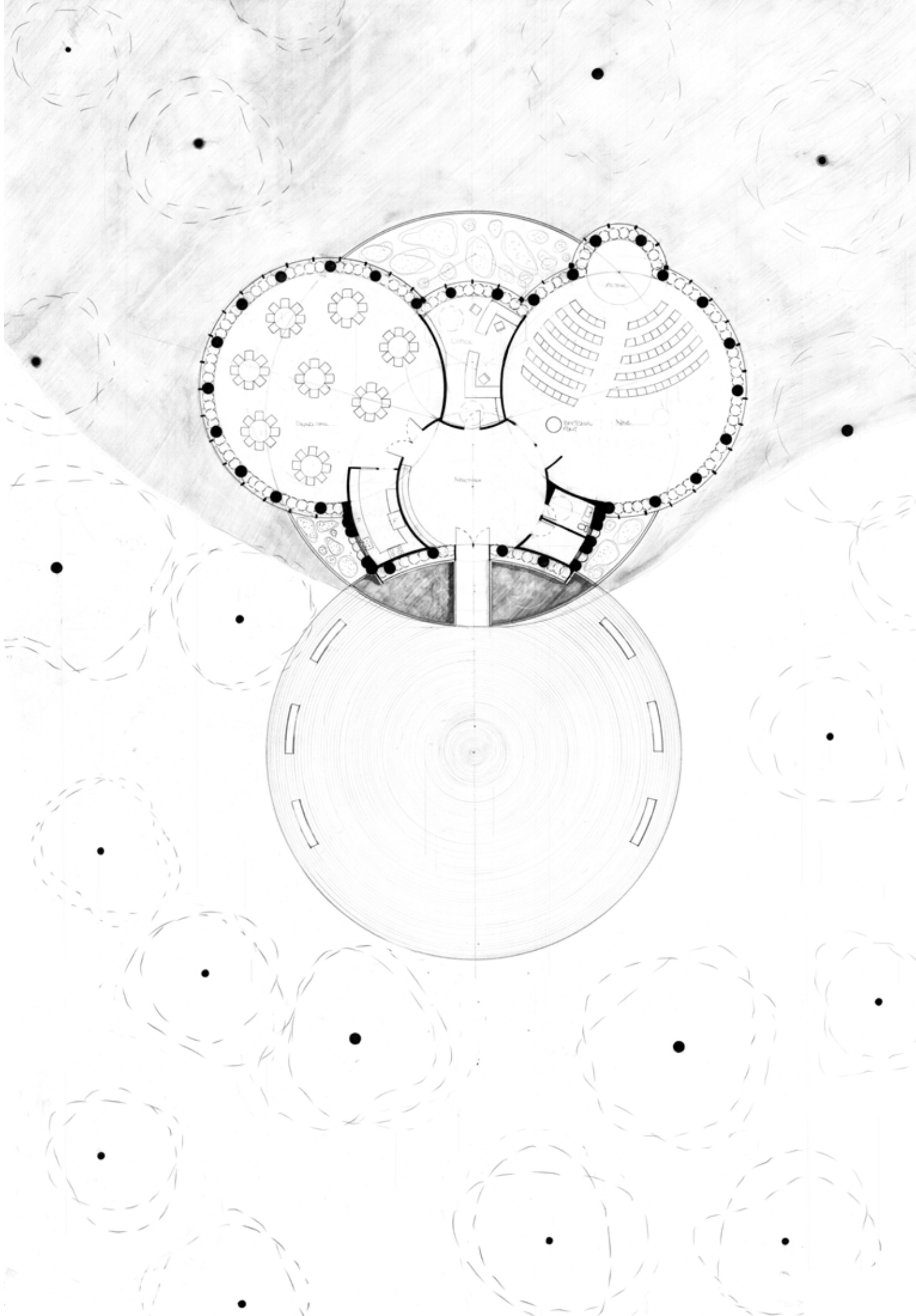
*Fig. 39. Geometry Exploration (Page 97).*

*Fig. 40. Proposed Church Plan First Iteration (Page 99).*

*Fig. 41. Contemporary Church Geometry Process (Page 100).*

*Fig. 42. Contemporary Church Plan (Page 101).*

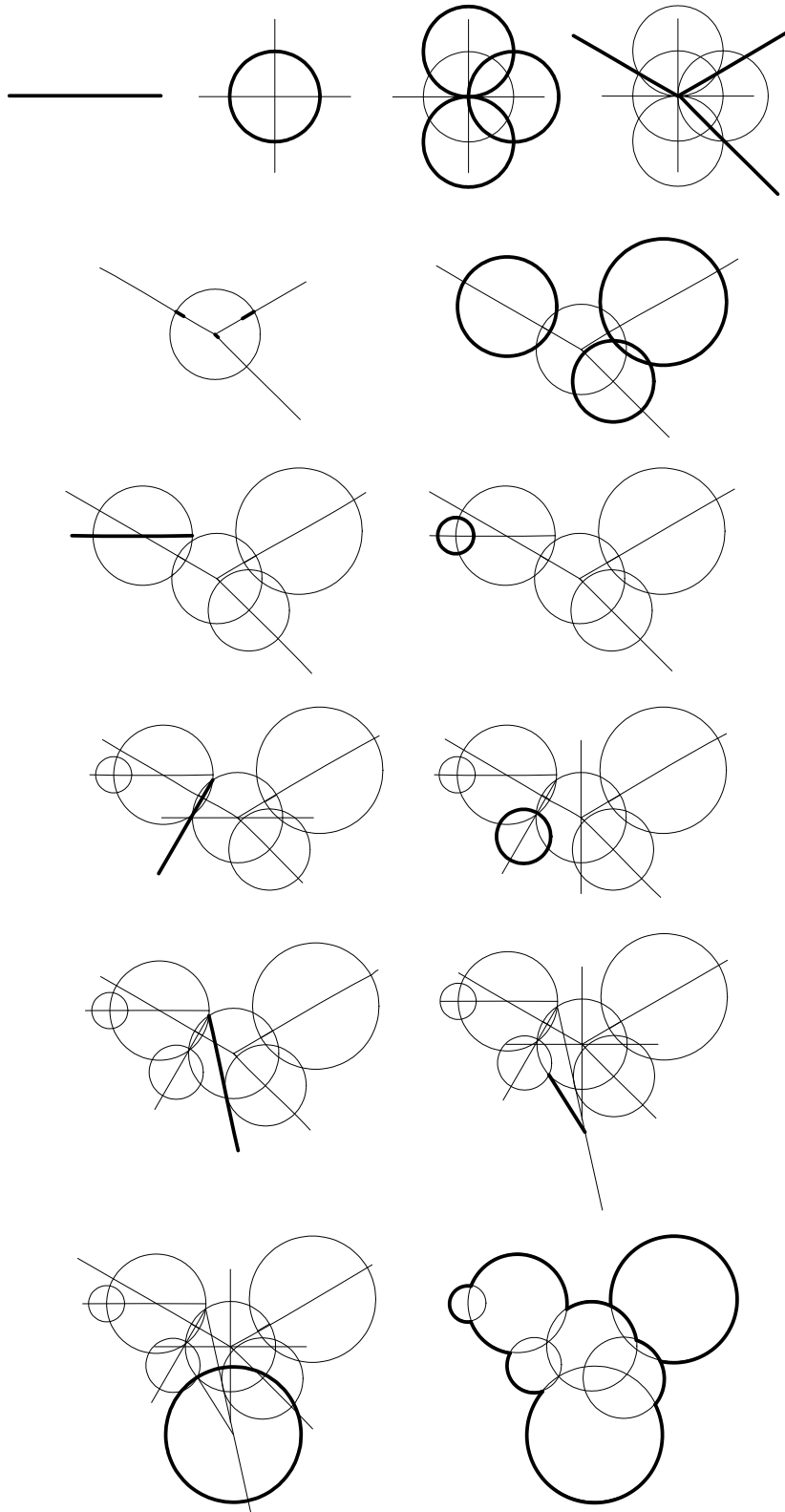
*Fig. 43. Veil Interpretation from Hebrews (Page 104-105).*



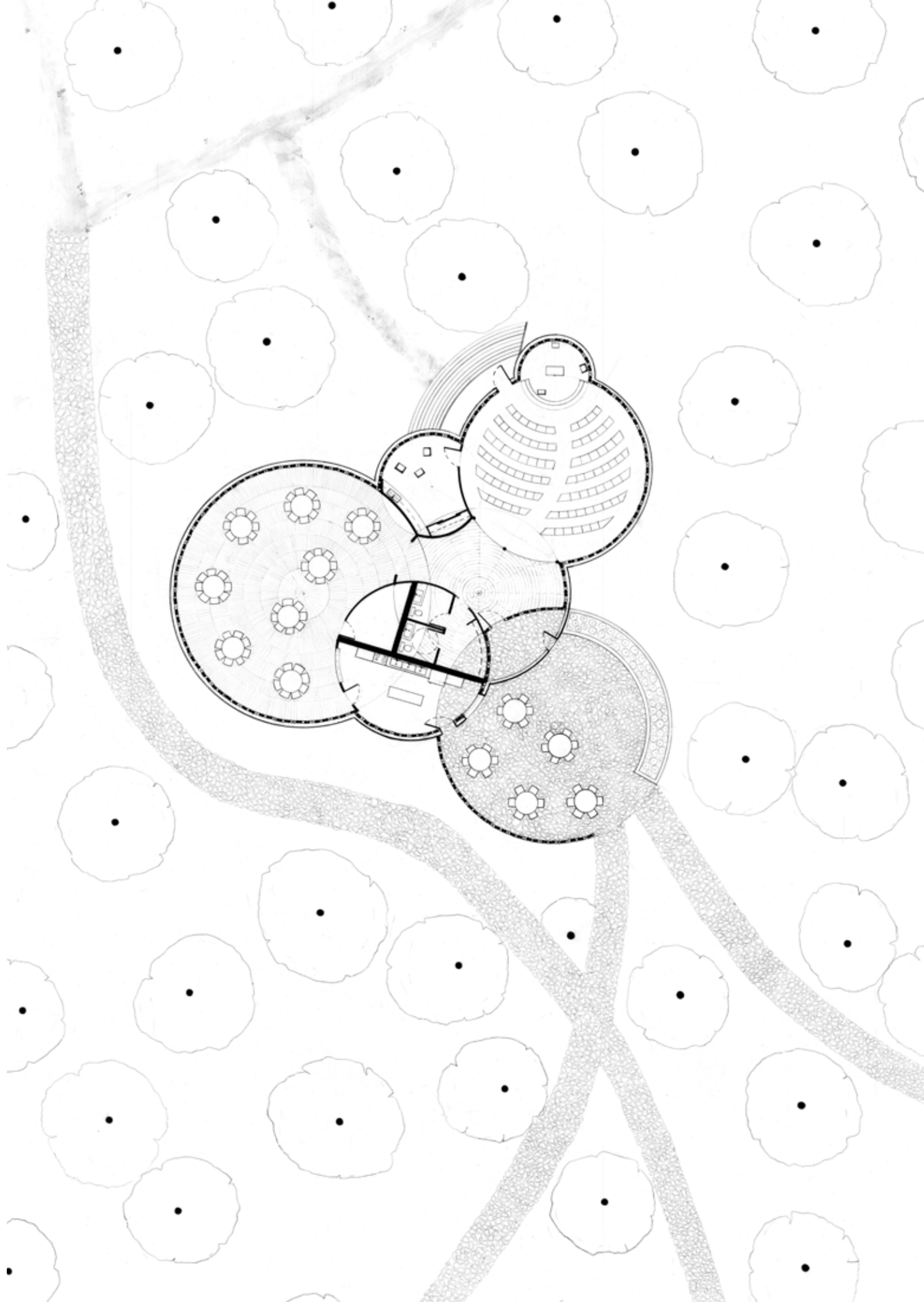
Prior to developing the geometry of the contemporary church building, the diameters for each space in the church were pre-determined in response to programming. The geometry process begins by creating the Vesica Piscis. An X and Y grid is formed with a circle's centre point at 0,0. This circle has four intersecting points with the grid. These intersecting points determine new centres for three new circles of the same diameter.

The upper two quadrants refer to an eight star geometry, determining points of intersection with the original circle. These two points inform the two symmetrical lines. The lower quadrant refers to a six star geometry determining the third line. This produces an overall asymmetrical geometry. The three lines determined from the star geometries become the axis for the second, third and fourth circles.

The position of the sanctuary is along a horizontal axis that runs through the centre of the nave (upper left quadrant). The location of the office is along a line derived from a biangolo. Between the original circle (narthex) and the nave, the two end points of the biangolo are connected and elongated therefore enabling the office to be adjacent to the nave. The dining hall determined by a diagonal axis. This axis is determined by two points intersecting the original circle (narthex). The two points of intersection is the nave and kitchen which are connected to generate the new axis. Each circle differs in programming but their relationships are emphasized in floor material patterns.







through a threshold into the nave and progressing to the sanctuary where only the priest may enter. The heavy walls defining the temple are impenetrable. This architectural plan expresses dominance, power and inaccessibility.

The Catholic Church is experiencing a decline in church attendance, therefore it is crucial to emphasize accessibility. The passage illustrates Jesus as the veil-like threshold, enabling access into the most Holy Place. Veils are a medium allowing partial views while still somewhat obstructing them. In relation to the site, the veils are interpreted as the forest. The vertical array of trees allows only partial views to beyond. The drawing expresses the numerous tree trunks at various heights drawing toward the brightest tree. The various trunks represent the members of the Catholic Church as they draw together to be near God. In the drawing, the trees are growing through the water. This metaphor represents the individuals in the Church being baptized, washing away their sins. This component of the drawing is further interpreted as the Church. Similar to the need for individuals to be cleansed from sins, this act is also required of the Church as it needs to experience a re-birth. The contrast between the trees and the dense background is developed into a section drawing, interpreting light vertical trees as the church building against a forest.

The various tree trunks against a dense forest interpreted

in composite drawing are integrated into the screen of the church buildings envelope. Model experimentation of potential screens connects the building to the site. Similar to the geometry process, the screen models explored organized and abstract patterns. Analyzing the composite drawings, site and model concluded the connection of these elements through an abstract pattern. Each of the seven spaces of the church have slightly varied screen designs. The six-inch columns are bolted together to generate a structure and screen aesthetic responding to the replanted site. The screen is enclosed by a curtain wall allowing natural light to penetrate into the spaces casting forest-like shadows into the spaces. The screen extends to the outdoor patio as a metaphorical transition of the forest becoming the walls of the church. The varying tree heights transitioned into the building's elevation drawings. Each circular space varies in height. This movement is to reconnect with the congregation and welcome people back to the Church. This resulted in the narthex being the highest in elevation, inviting those wandering through the forest. This is followed by the nave and dining hall emphasizing these open spaces of community engagement.

A second type of ornament implemented within the design is a translation of Leviticus 14:49-53:

And he shall take to cleanse the house two birds, and cedar wood, and scarlet, and hyssop: / And he shall kill the one of the birds in an earthen vessel over running water: / And he shall take the cedar wood,

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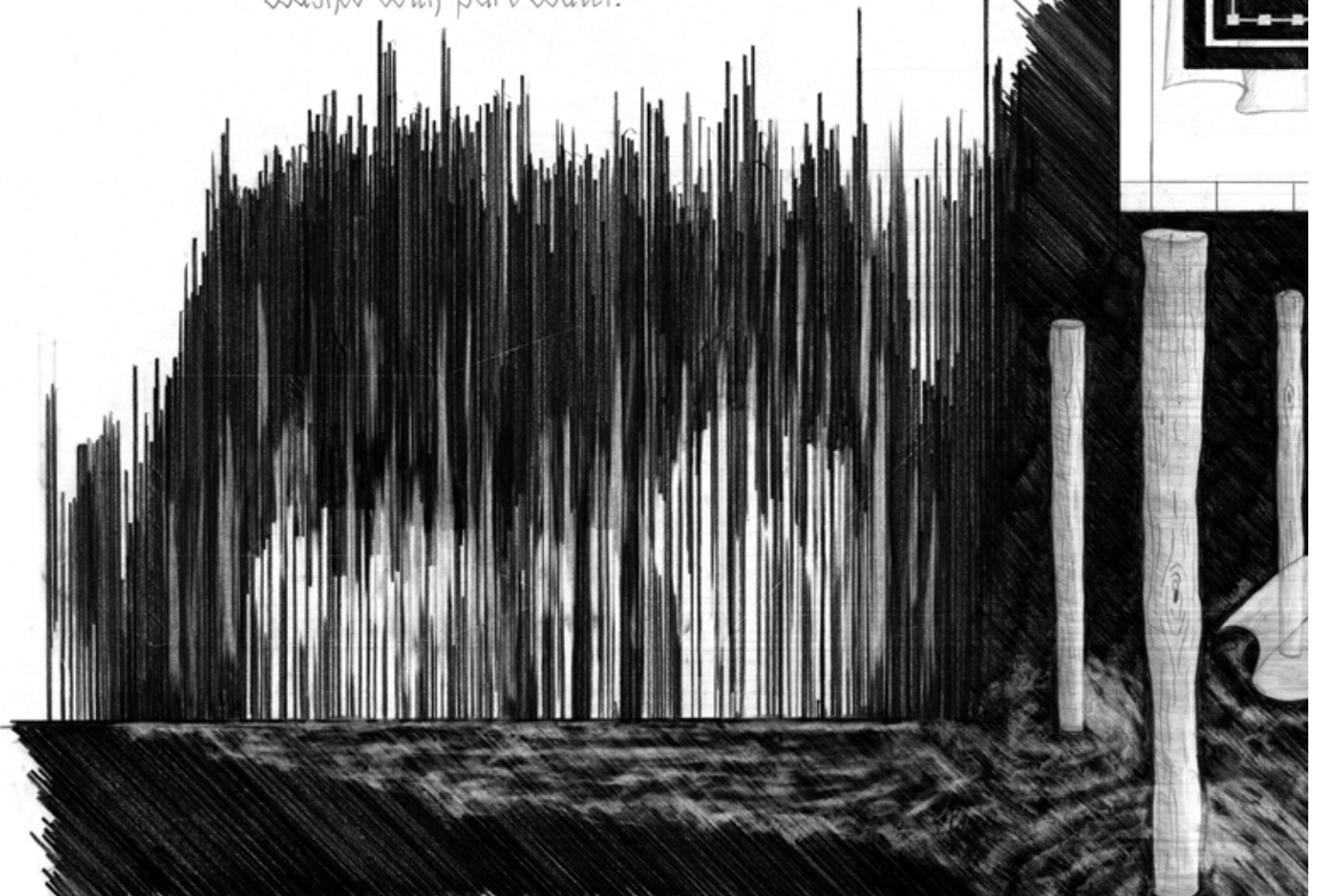
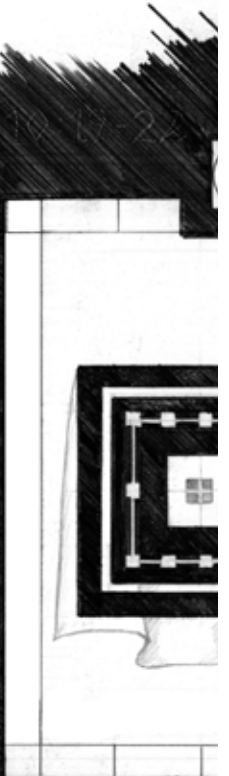
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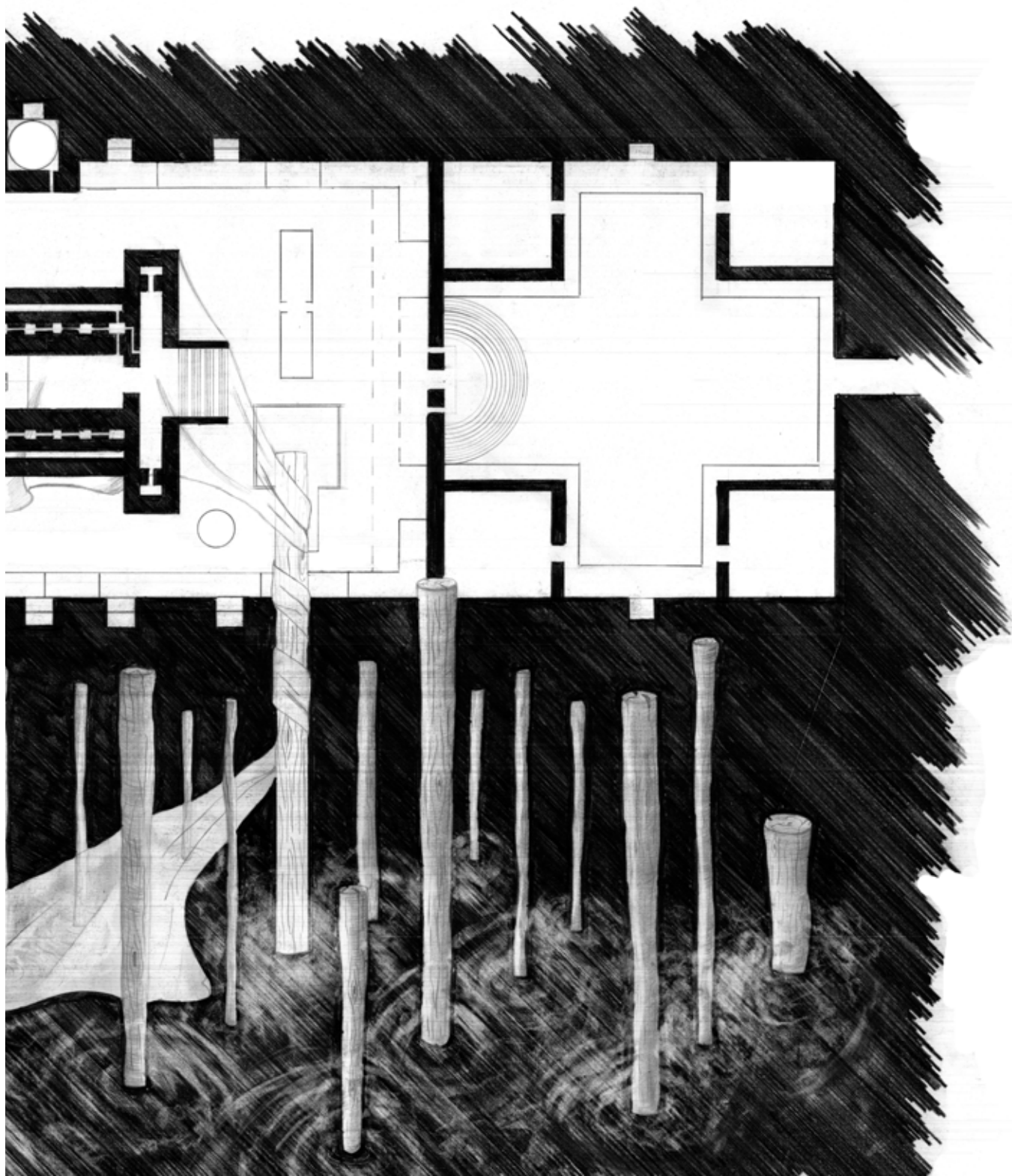
Having therefore, brethren,  
boldness to enter into the holiest  
by the blood of Jesus,

By a new and living way,  
which he hath consecrated for  
us, through the veil, that is to  
say, his flesh;

And having an high priest  
over the house of God;

Let us draw near with a  
true heart in full assurance  
of faith, having our hearts  
sprinkled from an evil  
conscience, and our bodies  
washed with pure water.





and the hyssop, and the scarlet, and the living bird, and dip them in the blood of the slain bird, and in the running water, and sprinkle the house seven times: / And he shall cleanse the house with the blood of the bird, and with the running water, and with the living bird, and with the cedar wood, and with the hyssop, and with the scarlet: / But he shall let go the living bird out of the city into the open fields, and make an atonement for the house: and it shall be clean.<sup>54</sup>



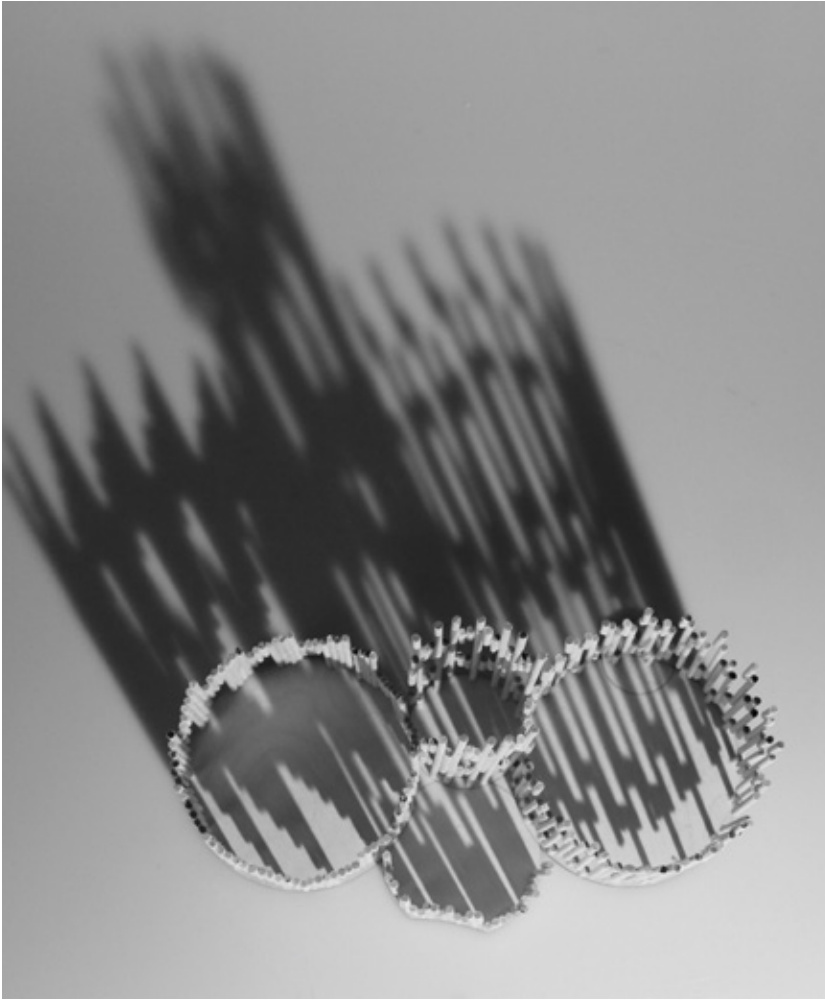
*Fig. 44. Screen Exploration (Above).*

This reading provides the ingredients and how the act of purifying is performed. One of the ingredients is cedar

wood which is among the material palette for the church design. The key component of this passage is the sprinkling of the blood seven times. Seven is a common number in the various passages pertaining to the purification ritual. A common reoccurrence within these drawings are ripples of water. The ripples are formed from the idea various people within a pool of water being baptized. These various people unite as one, signifying the Church community. As a result of numerous ripples of water, these effects intersect with

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<sup>54</sup> KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995. Leviticus 14:49-53.



*Fig. 45. Shadow Pattern Exploration (Above).*

*Fig. 46. Purification (Page 108).*

*Fig. 47. Contemporary Church Screen Shadow Study-Sunrise (Page 110).*

*Fig. 48. Contemporary Church Screen Shadow Study-Sunset (Page 111).*

*Fig. 49. West Elevation (Page 112-113).*

*Fig. 50. Travelling Section & Site Section (Page 114-115).*

*Fig. 51. Nave, Wall Section Detail (Page 116).*

*Fig. 52. Connection Detail (Page 118-119).*

*Fig. 53. Photograph of Church Model (Page 120).*

*Fig. 54. Rippled Dome of Contemporary Church (Page 121).*





and he shall take  
to cleanse the house  
two birds, and cedar  
wood, and scarlet,  
and hyssop:

and he shall kill the  
one of the birds in  
an earthen vessel  
over running water:

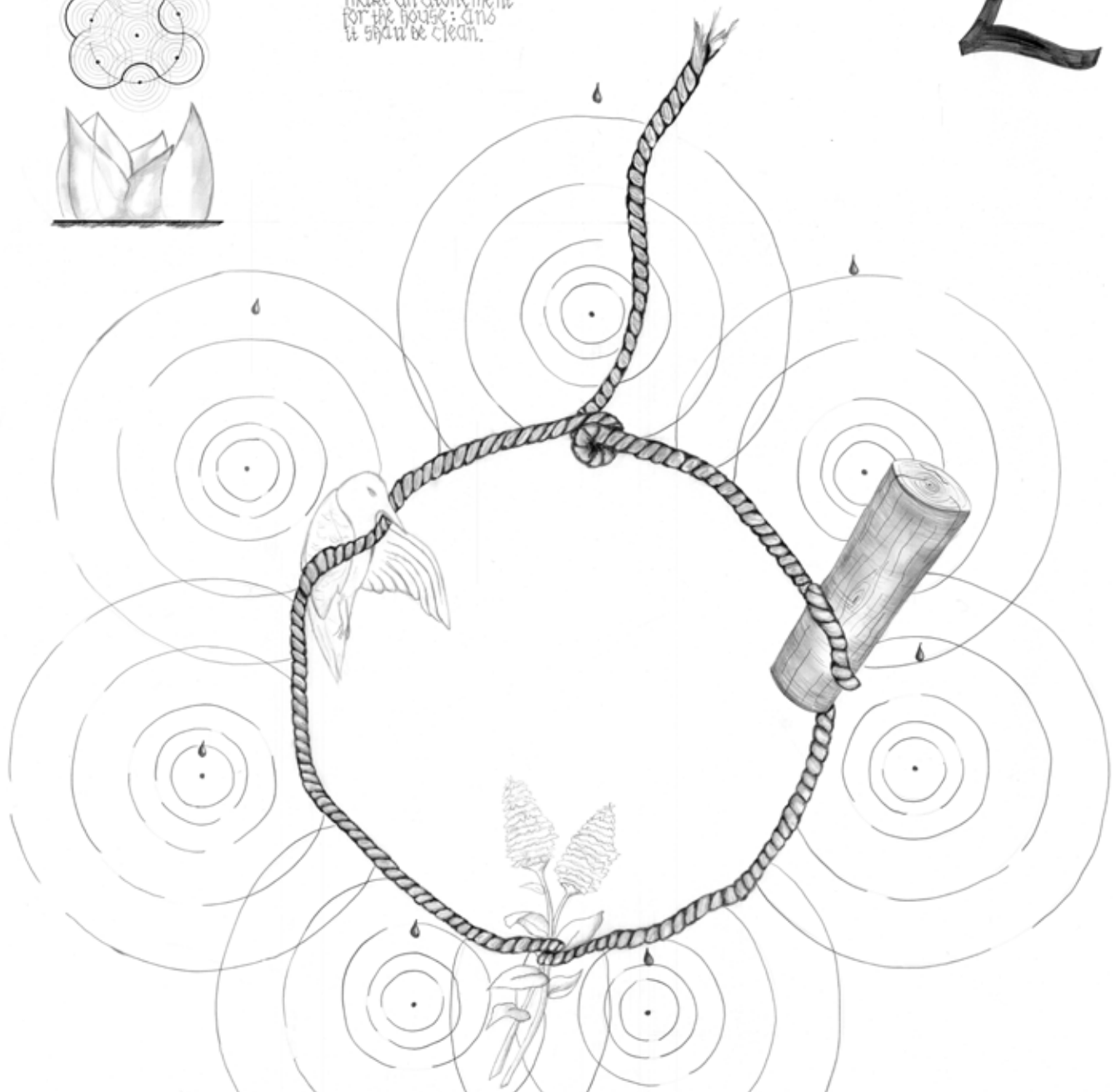
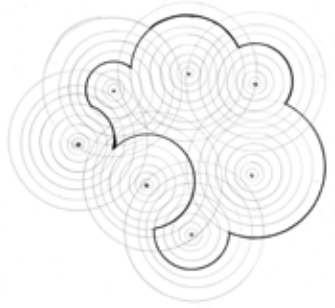
and he shall take  
the cedar wood, and  
the hyssop, and the  
scarlet, and the living  
bird, and dip them in  
the blood of the slain  
bird, and in the  
running water, and  
sprinkle the house  
seven times:

and he shall cleanse  
the house with the  
blood of the bird, and  
with the running  
water, and with the  
living bird, and with  
the cedar wood, and  
with the hyssop, and  
with the scarlet:

But he shall let go  
the living bird out  
of the city into the  
open fields, and  
make an atonement  
for the house: and  
it shall be clean.



14:  
49-53

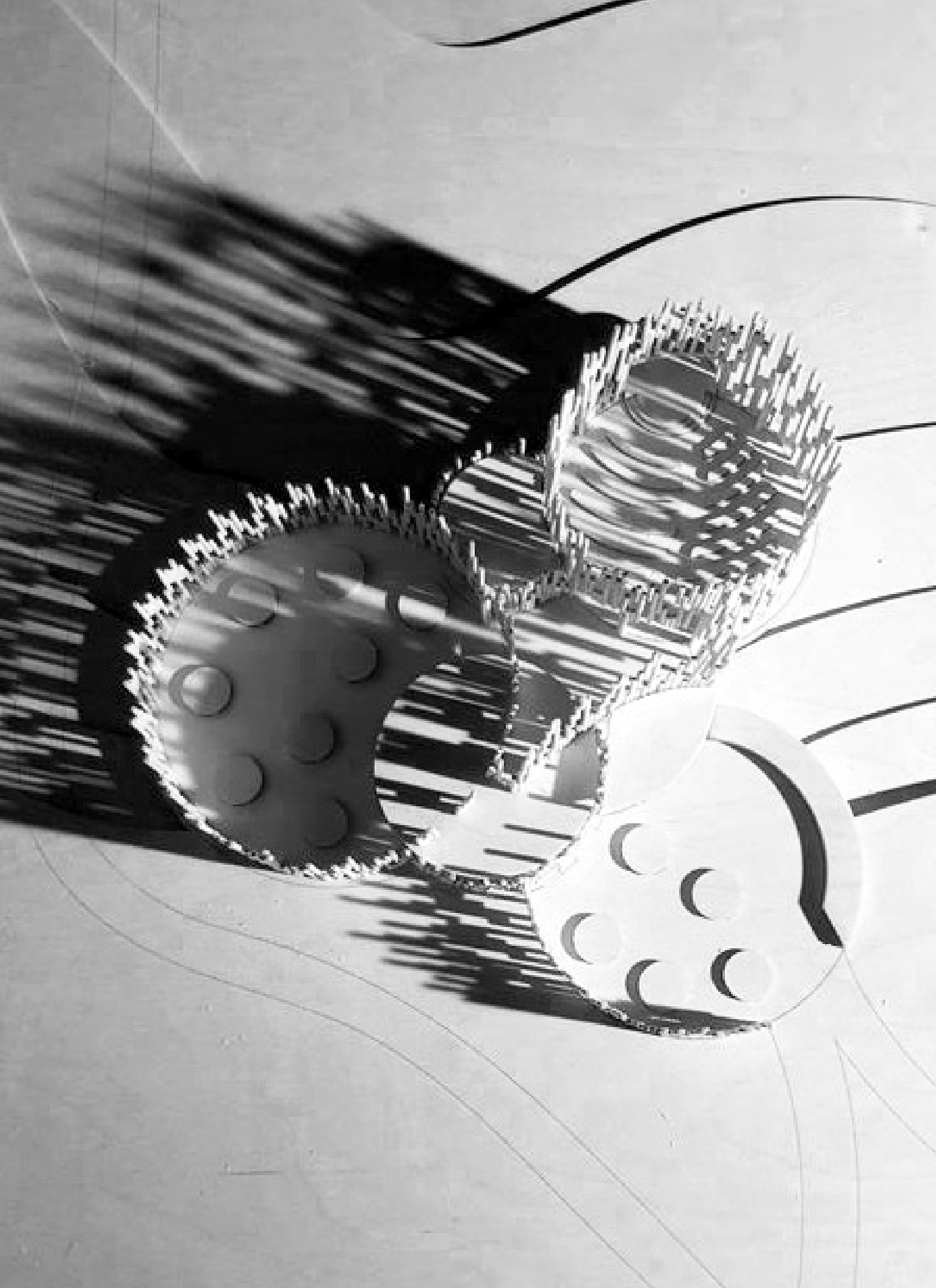


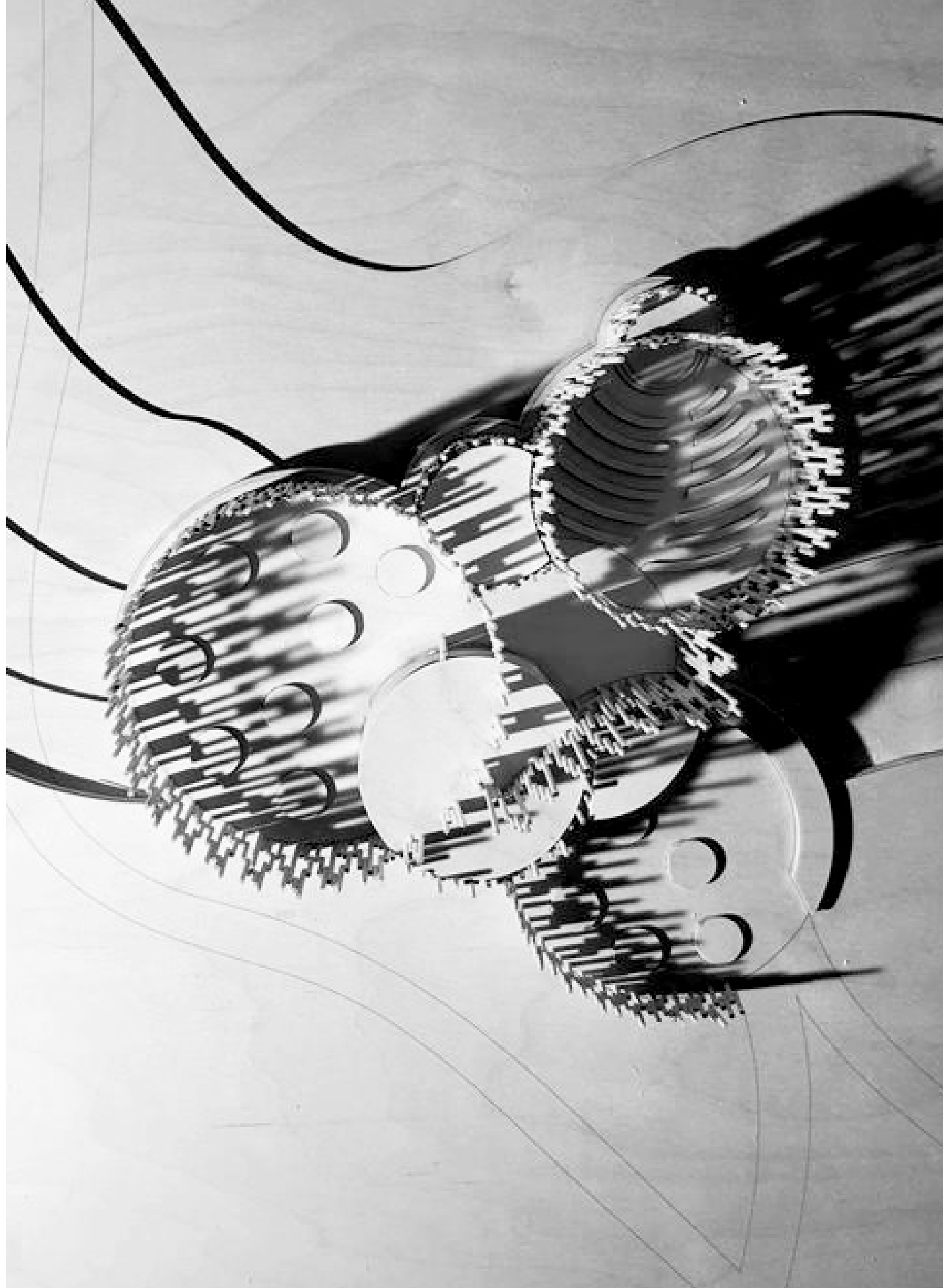


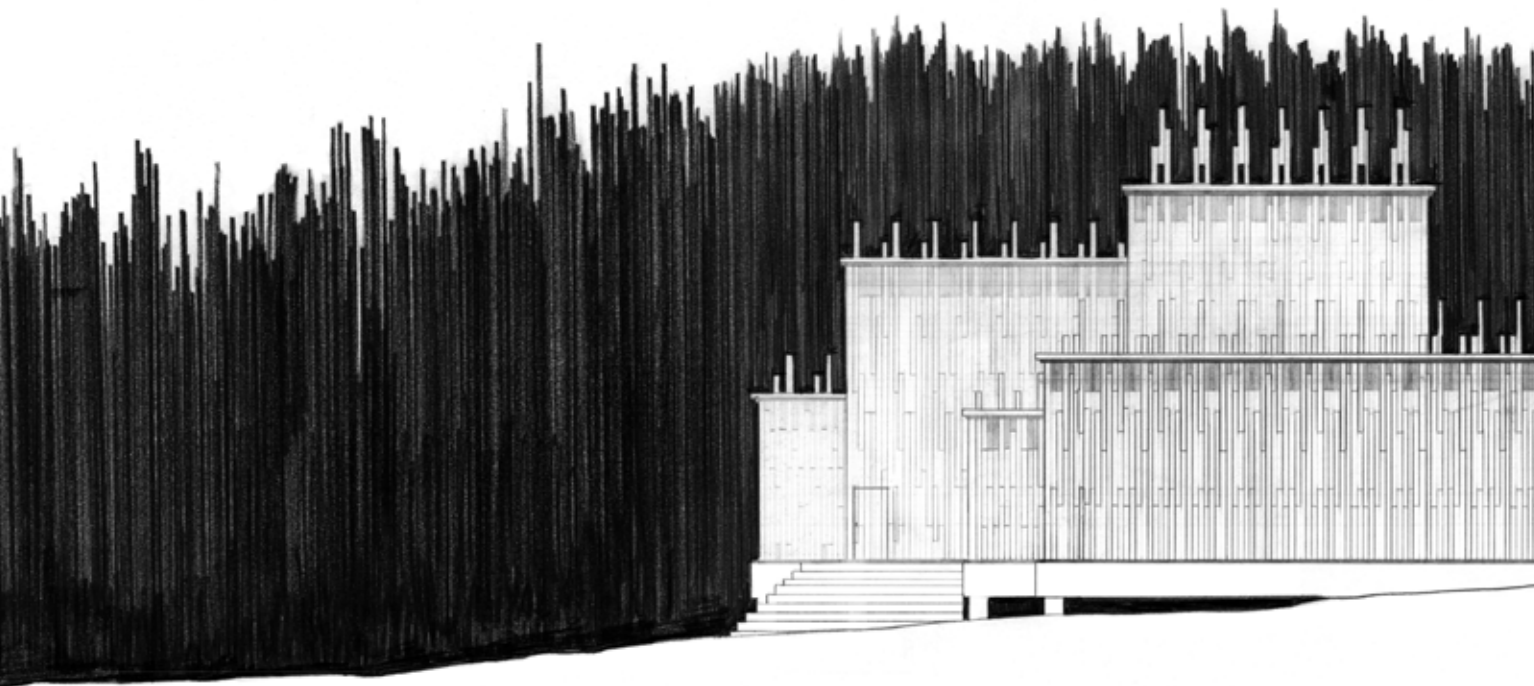
other ripples. This represents the impacts individuals have on the Church, whom unite as one Catholic religion.

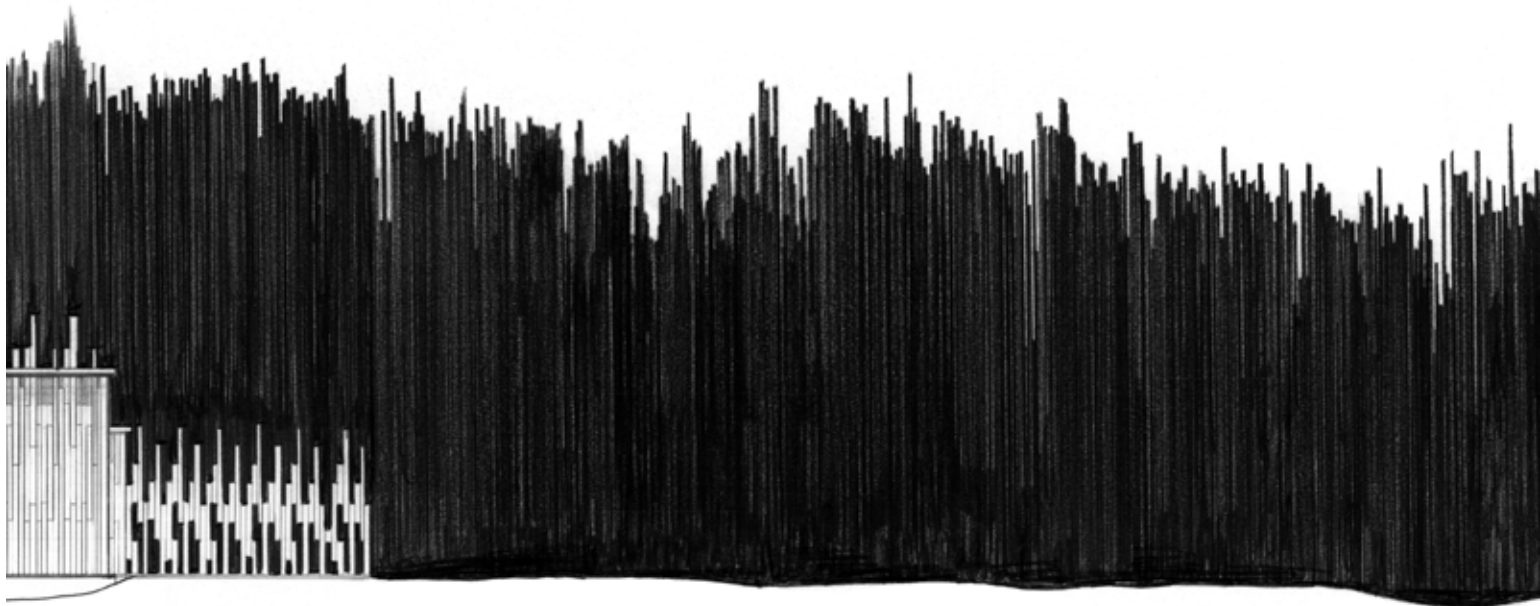
The intersecting ripples are emphasized through the floor patterns as they transition throughout the spaces. The entrance/patio floor is a continuation of the sites flagstone pathways, arrayed from the centre of the patio. The narthex also has a radial effect of stone flooring, followed by the dining hall composed of a subtle wooden floor arrangement.

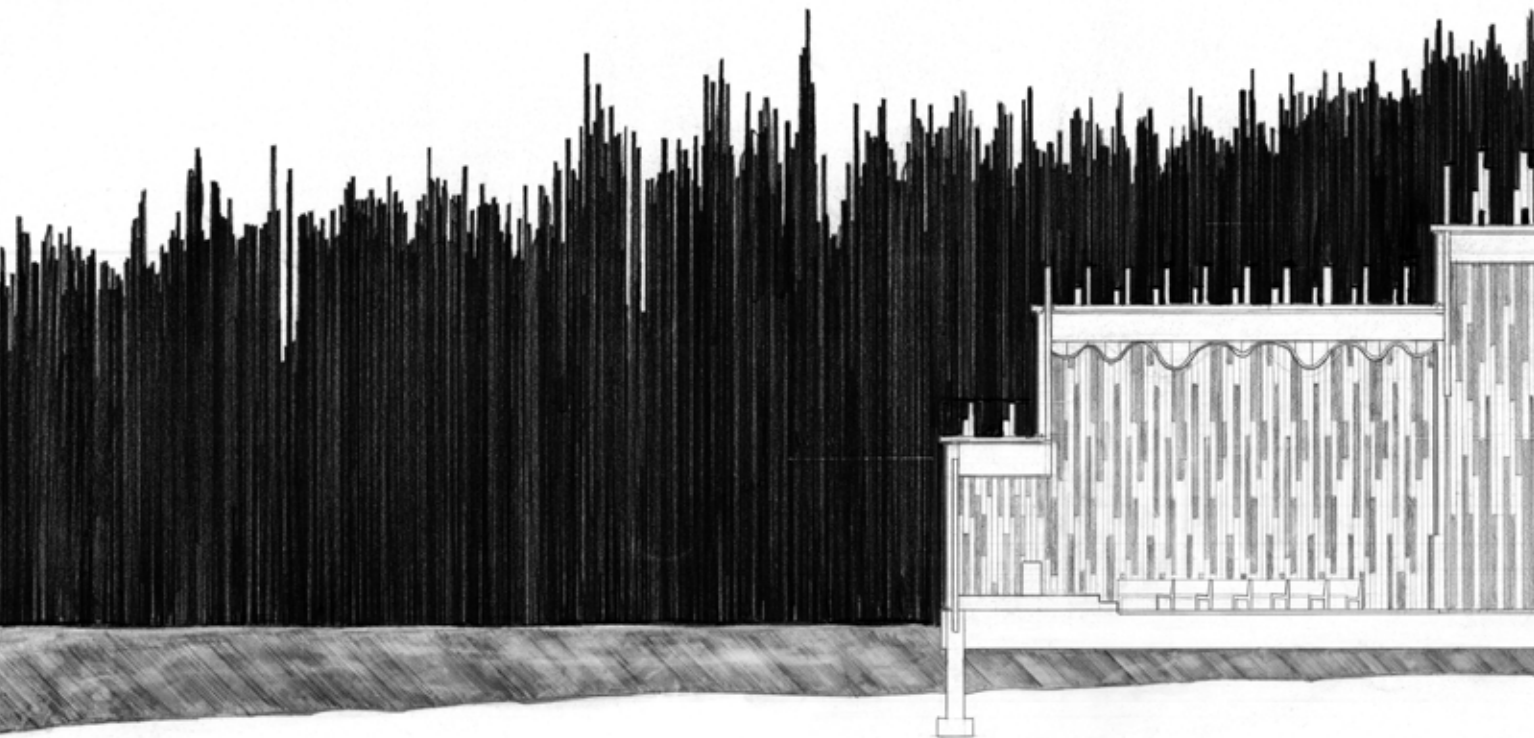
These three public spaces incorporate the unique floor designs portraying the excitement and inviting conversation. The nave, sanctuary office and kitchen do not have floor designs as they are private, intimate and humble. Although these spaces are private, the nave introduces a geometry within it's ceiling design. Many traditional Catholic churches have a dome above the nave. This design component is not appropriate in a contemporary church design, nor does it relate to the site or theology. The ceiling design is undulating ripples from a concave centre. This is an interpretation of the dome designed with the baptismal water influence. There are seven ripples responding to the passage from Hebrews.

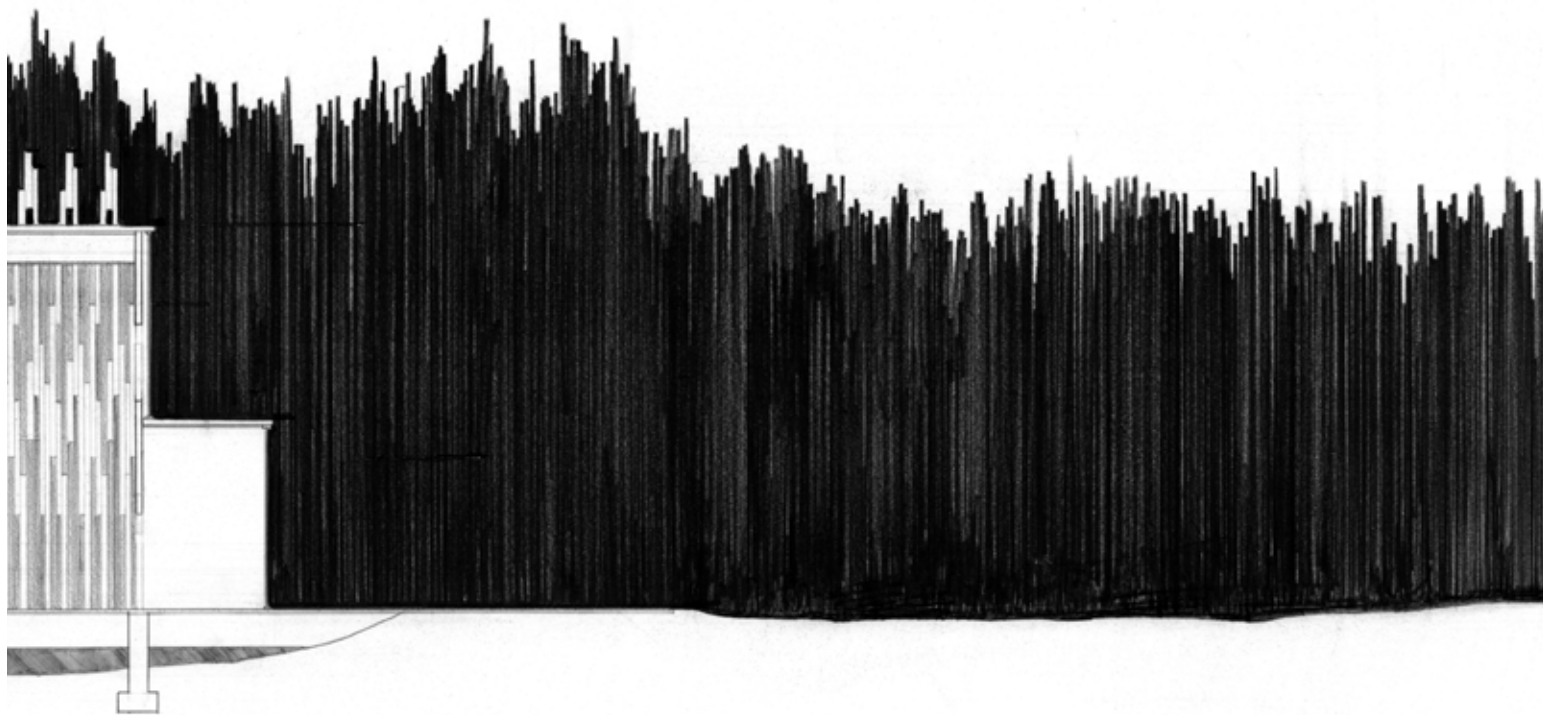


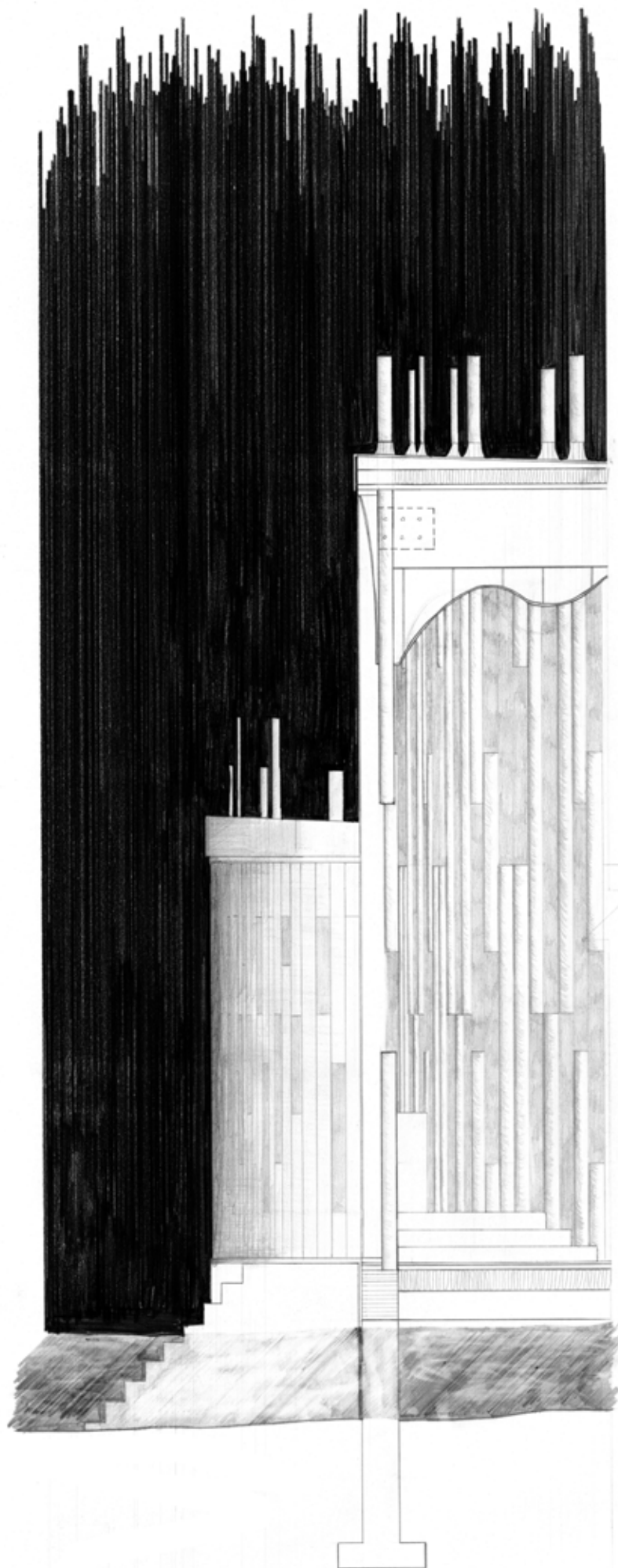






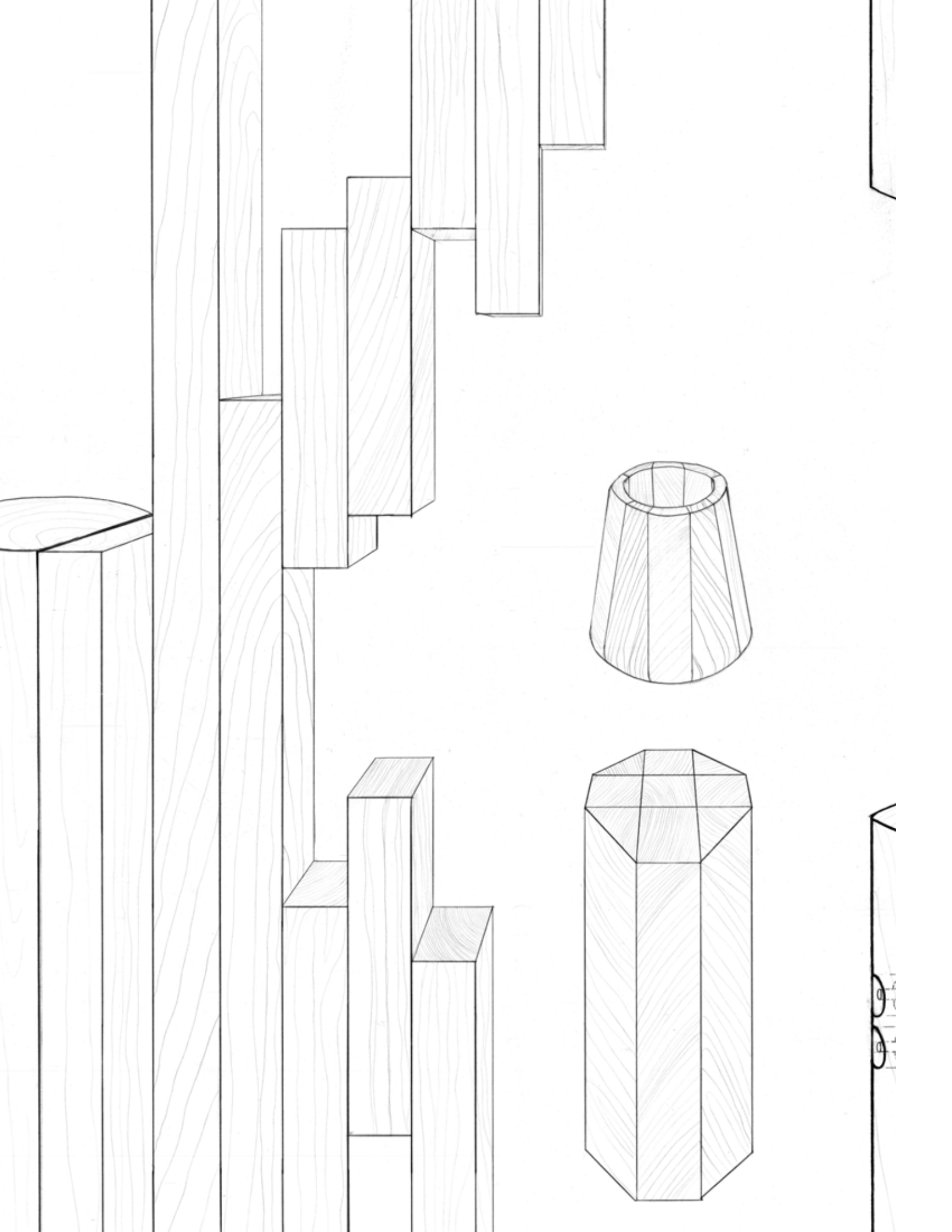


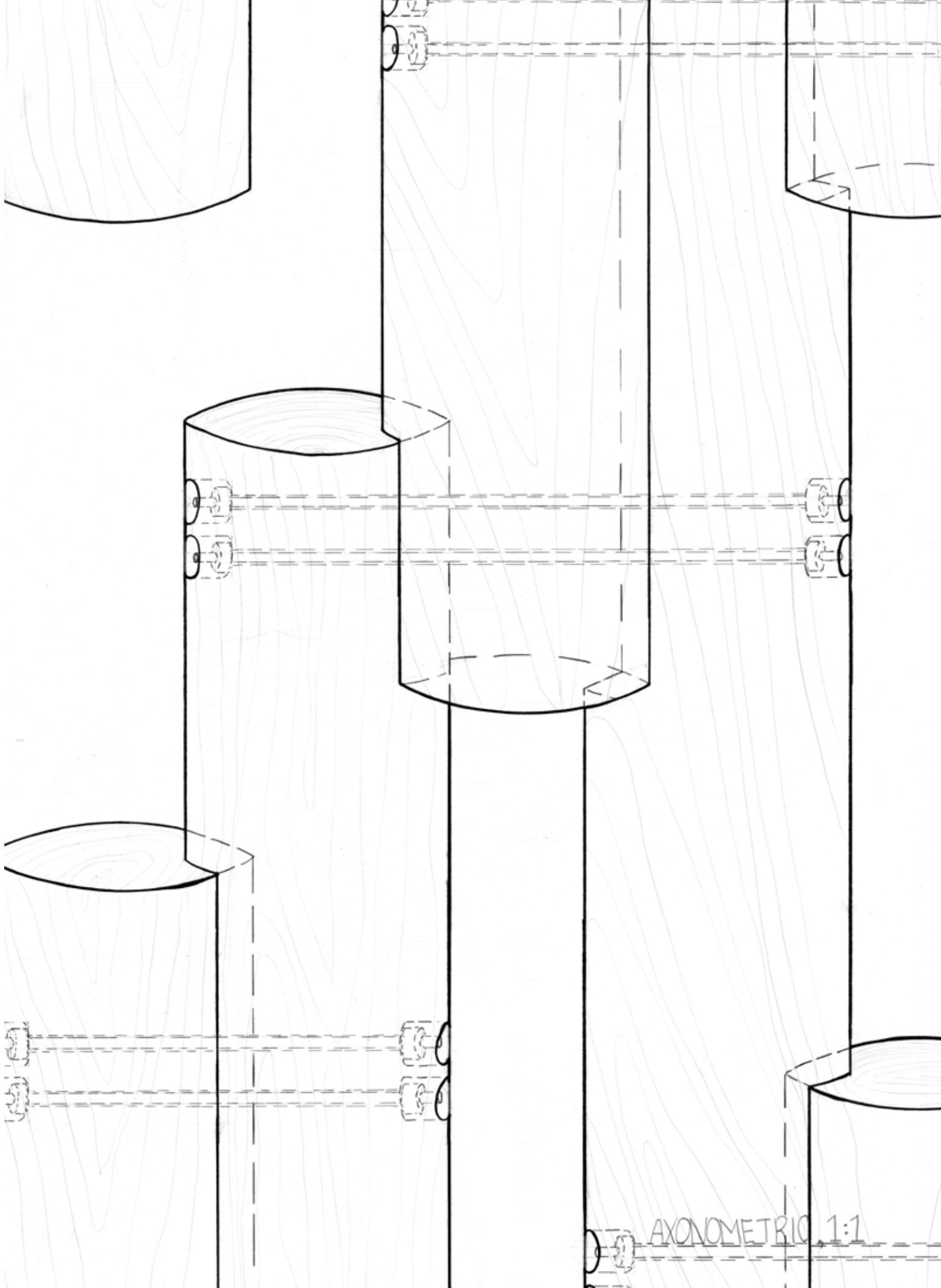












AXONOMETRIC 1:1







## Aspersorium & Aspergillum

Liturgical items including the aspersorium and aspergillum were designed and hand crafted as part of the church design process. The two items are used to perform the purification ritual in the Catholic Church. An aspersorium is essentially a bucket or vessel containing holy water. The aspergillum is a stick with either a silver ball or bristles attached at one end. These objects are used during mass by the Priest. The Priest dips the aspergillum into the holy water contained in the aspersorium to sprinkle the water upon the congregation.

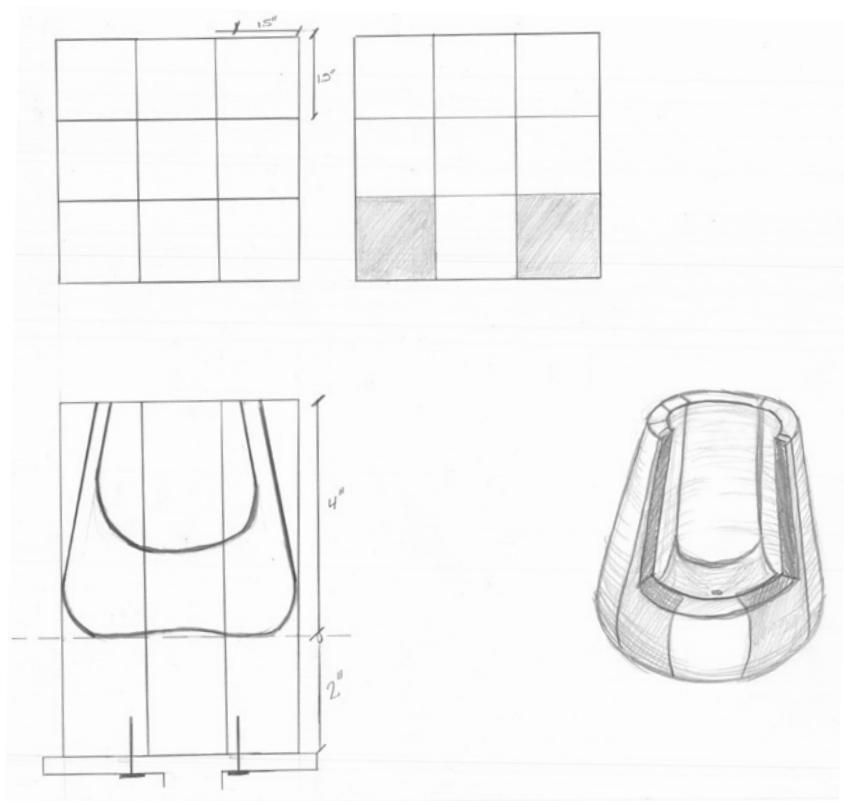


Fig. 55. Aspersorium Sketch.



*Fig. 56. Bowl Test #1, basswood.*

The passage Leviticus 14:49-53 describes the act of purification performed upon God's followers. One of the materials used in this ritual is cedar wood. Although the aspersorium is traditionally a gold vase, this design is intended to challenge the traditions of the Catholic Church. The material used for the design is walnut and maple wood. The aspersorium is a combination of these materials, while the aspergillum is pure walnut. To unite these objects and to project its significance, a board with minor engravings was created to display these sacred items.

Utilizing wood as a material for the aspergillum and aspersorium directly relates to the Scriptures and reflects upon Jesus who was a carpenter. Additionally, as the object purifies people of sins, the use of wood further symbolizes Jesus upon the wooden cross as he was the final sacrifice for all sins. This further connects to purification as sacrifice is



*Fig. 57. Bowl Test #2, red and white cedar wood.*

another ritual for purifying. Reflecting upon the Bible and acts of grace, this project was hand crafted using the lathe. All three components were sanded by hand and finished with a French polish. The vase has a diameter of four and one half inches and a height of four inches. The length of the cylindrical aspergillum is seven inches.



The vessel is significantly smaller than a traditional aspersorium. This is a response to the downsizing Catholic Church. Relating to ornamentation of the church design, the aspersorium is composed of vertical one and a half inch pieces of laminated wood, representing the replanted forest on the proposed site and the vertical screen facade of the Church design. The objects are coated with linseed oil followed by methyl hydrate and shellac. This finish seals and protects the wood, producing a shining finish. The aspersorium and aspergillum combined is under five pounds. These small objects are able to fit into the palm of a hand therefore providing ease when the Priest carries it throughout the nave. The vertical wood laminates of the aspersorium is an ornamentation, expressing the vertical trees and screen of the building. The inside of the vessel reveals the ornamentation of water. The central interior square extrudes in its corners therefore producing the effect of splashing water. A final unique reveal is the appearance of the walnut inside the vessel as they appear to be in the form of fish. The fish is a symbol of Jesus and baptism in Catholicism, unveiling the theology of the Church design.

*Fig. 58. (Top) Aspersorium, walnut and maple wood.*

*Fig. 59. (Middle) Aspergillum, walnut wood.*

*Fig. 60. (Bottom) Maple Tray.*

*Fig. 61. Ornamented Aspersorium (Page 128).*

*Fig. 62. The Liturgical Object (Page 130).*











## CONCLUSION

This thesis studies the work of Baroque architect Francesco Borromini and his architectural approach in responding to the downsizing Catholic Church. Borromini participated in the Counter Reformation efforts by interpreting the Catholic religion through architecture. Analysis of Borromini's two churches in Rome, San Carlo alle Quattro Fontane and Sant'Ivo alla Sapienza, reveal the relationship between the site, geometry, ornament and Scriptures is essential toward conveying Catholic theology in architectural design.

Current challenges faced by the Church are similar to those during the Protestant Reformation. Author Steven J. Schloeder provides numerous explanations to the downsizing Catholic Church and architecture's perceived relevance. The design principals discovered from Borromini's works were applied in a design proposal for a contemporary Catholic Church located in the Town of Orangeville.



The architectural idea of the proposed Church is baptism. The Church is currently in a state of peril and needs to be cleansed from sins in order to progress toward healing.

In summary, the Church has gone through several crises throughout its history which have prompted revisions to the church that have included a critique of architecture. Borromini's counter-reformation churches in Rome combine ornamentation, geometry and site to convey a scripture appropriate to its place. Learning from Borromini, I apply a similar method to addressing the post Vatican II crises of the Catholic Church toward creating a new Catholic architecture appropriate to this time and place.

## APPENDIX

### **Timeline of Borromini's San Carlo alle Quattro Fontane and Sant'Ivo alla Sapienza Churches**

Beyond the various stages of the church there is also significant dates regarding Borromini's clients and influence upon his works.

- 1303 -Pope Boniface VIII founded Rome's first university  
—Catholic and Protestant Reformation Began 1517—
- 1594-97 -Giacomo Della Porta designed and built 2 story facade of St.Ivo
- 1599 - Borromini was born, Bissone
  - Name originally Francesco Castello
- 1611 -Barefoot Trinitarii Scalzi (Friar community) had cluster of homes around fountains
- 1632 -Bernini and Borromini working together at St. Peter's
- 1634 -Borromini's 1st commission
- 1635 -Began work of cloister at San Carlo
- 1636 -June, cloister of San Carlo completed
- 1638 -February, began construction of San Carlo
- 1639 -Structure of San Carlo completed
- 1641 -May, San Carlo completed
- 1643 -Foundation for St. Ivo laid
- 1646 -San Carlo consecrated
- 1648 -St.Ivo structure completed  
—Reformation ends. Peace of Westphalia—
- 1652 -Cross and globe on top St. Ivo gilded
  - May, designed chain weighting 949lbs, hoop thrusts at base of dome to hold up lantern
  - Flaming laurea over spiral

- 1659 -Interior decor of StL. Ivo  
-Demolition of surrounding homes for expansion of St.Ivo
- 1660 -Floor laid of St. Ivo & consecrated  
-St.Ivo university relocated because of increase of student enrolment
- 1662-64 -Facade leading to cloister completed
- 1665 -Facade of church  
-Construction of book case at St.Ivo
- 1667 -Borromini's suicide
- 1677 -Tall Facade of San Carlo's added
- 1682 -Since Borromini's death till this year, his nephew Barnardo worked on projects
- 1859 -Interior of St.Ivo restored. ... 19th century alterations, ie paint, has since been removed, back to Borromini's original white walls

### **New Testament Study**

It is essential to study the New Testament to reveal the intentions of Borromini's ornamentation applied to San Carlo alle Quattro Fontane and Sant'Ivo alla Sapienza. This study extracts significant passages which will assist in understanding the ornament applied to these Churches conveying Catholic theology.

#### *Matthew*

- 2 -People waiting for a king to rule Israel  
-Mary, Joseph and Jesus flee into Egypt. Herod would kill. Them went to Israel.
- 3 -People gather for baptism  
-Jesus baptized  
16: And Jesus, when he was baptized, went up straightway out of the water: and, lo, the heavens were opened unto him, and he saw the spirit of God descending like a dove, and lightening upon him.
- 4 -Jesus addressing devil saying need to listen to god  
16: The people which sat in darkness saw great light; and to them which sat in region and shadow of death light is sprung up.  
-Jesus made simon andrew and peter fishermen
- 5 -The law of the lord. things you shouldnt do. (10 commandments? maybe?)  
-Love enemies
- 9 -Jesus met matthew and made him follow
- 10 16-Harmless as doves

- 34-come to send sword not peace?
- 12 25-..Every kingdom divided against itself is brought to desolation; and every city or house divided against itself shall not stand.
- Unity is key in order to remain strong
- 42- The queen of the south shall rise up in the on; and, behold, a greater than solomon is here.
- 30-32- Allegory, that heaven is like a seed, once planted and able to grow, more attract and come
- 14 -Murder of John the baptist. beheaded.
- 18 10-Take heed that ye depise not one of these little ones; for I say unto you, That in heaven their angels do always behold the face of my father which is in heaven
- 19 -12 Tribes of israel
- 23 17- Ye fools and blind: for whether is greater, the gift, or the altar that sanctifieth the gift?
- 27 40- Saying if jesus can destroy jewish temple and rebuilt it in three days he is the son of god. mockinghim. TEMPLE=JESUS. will rise in 3 days. death of Jesus

#### *Mark*

- 1 -Jesus baptized by john in jordan
- 2 -Levi follows jesus. jesus talks of fasting
- Jesus healing people
- 6 -Death of John the baptist
- 48 jesus walking on sea
- 8 -5 Jesus took 7 loaves of bred and fed 4000 men who they hadnt eaten 3 days.took up 7 baskets
- 5:18-20 loaves fed 5000 and took up 12 baskets. moral of story more to share the more you have?
- 9 -Jesus fortells his death
- 13 7-And when ye shall hear of wars and rumours of wars, be ye not troubled: for such things must needs be; but the end shall not be yet.
- 14 -Last supper, jesus states one of 12 disciples will betray him
- 12 -20 put purple cloth on jesus before taking him to his death

#### *Luke*

- 1 -Birth of John the baptist
- 19-Gabriel angel

- 26- 6 months
- 2 -Birth of Jesus  
40-and the child grew, and waxed strong in spirit, filled with wisdom: and the grace of god was upon him.  
-Jesus growing in wisdom  
-everyones and jesus baptism
- 3 24-Josephs family tree. (son of...) 77 people (starting at god to adam etc down to jesus)
- 4 -Jesus tempted by devil 40 days in wilderness
- 6 -Judas traitor
- 11 -Jesus tells lawyers message from god and they ignore
- 15 -Parable of lost son. story of greed leading to downfall. admitting downfall=forgiveness. finding self
- 17 -How to forgive
- 18 -22 Jesus told man to give away all he has.. and he was rich. Rich=selfish therefore not enter heaven. must help and serve others than self  
-Jesus made a blind man see again
- 22 -Last supper  
47-Judas betrayed Jesus (disciple)  
-ear cut off and jesus still healed him (maybe an analogy for hearing and believing things against jesus)
- 23 -crucifixion  
46-And when Jesus had cried with a loud voice, he said, Father, into thy hands I commend my spirit: and having said thus, he gave up my ghost.
- 24 -Jesus resurrected

### *John*

- 1 -Life=light. light shines within darkness
- 3 5-6- Jesus answered, Verily, verily, I say unto thee, Except a man be born of water and of the Spirit, he cannot enter into the kingdom of God. That which is born of the flesh is flesh; and that which is born of the spirit is spirit.  
-Man come to light as dark=evil
- 4 24- God is a Spirit: and they that worship him must worship him in spirit and in truth.
- 5 46-47 For had ye believed Moses, ye would have believed me: for he wrote of me. But if ye believe not his writings, how shall ye believe my words?

- 8 -Jesus the light of the world
- 12 -Jesus brought Lazarus from the dead
- 35-36 Jesus talking about people being the children of light, following Jesus the son of God being the light).
- 17 -Jesus prays for future church
- 19 -"Jesus crowned with thorns"
- 20 -Jesus resurrected and appears to Mary
- 21 -Jesus feed fish and bread to disciples (as he is resurrected)

#### *Acts*

- 1 2-Jesus taken up to heaven and communicated with disciples through Holy Ghost
- 4 8- Peter the disciple filled with Holy Ghost. uses wisdom to preach
- 31- And when they had prayed, the place was shaken where they were assembled together; and they were filled with the Holy Ghost, and they spake the word of God with boldness.
- 32-State of church in Jerusalem
- Money. buy and sells
- 5 -32 God gives those that follow him the Holy Ghost. the Holy Ghost provides direction and wisdom of the faith
- Apostles beaten and told not to speak of Jesus
- 6 -7 Honest men full of Holy Ghost and wisdom aka deacons to take over the 12 disciples and spread word of God. then priests
- 15 Stephen face of angel
- 7 -Faith spread
- Jacob died in Egypt
- Moses, wisdom in Egypt
- Moses saw angel on fire. voice of Lord came onto him
- Church in wilderness 38.
- Solomon built God a house
- 49-Heaven is my throne, and earth is my footstool: what house will ye build me? saith the Lord: or what is the place of my rest?
- 8 -Persecution of church in Jerusalem
- Saul taking Christians to prison
- 18-Simon offered money for the power of the Holy Ghost (heart is not right)
- 9 -Once baptized, filled with Holy Ghost. provides

- comfort
- Saul (paul) baptized
- 10 11- Peter sees heaven open (vision)
- 38- Jesus and holy ghost have power from God
- 12 -Arrest of peter
- 6- In prison, bound by chains
- 13 6- False prophet Bar-Jesus... satan
- 14 23- Elders in every church (wise ones, aka priests?)
- 15 -Questions and issues therefore keeping laws of moses (council of Jerusalem)
- 17 -Thessalonica = synagogue of Jews
- 19 -Apostles spread out teaching word of God and gathering own disciples to increase followers
- Baptism= holy ghost
- 20 -Holy ghost in every city
- 21 -Holy spirit tells paul not to go to Jerusalem
- 15- Paul heads to Jerusalem
- Paul purified self and men before entering temple (Gentiles)
- 22 -Men of Israel yelled saying paul brought Greeks and others into jewish temple
- Paul beaten by soldiers
- Paul bound by 2 chains
- Paul was born Jewish but at (25) says he is Roman
- 25 -Paul judged by Caesar
- 27 -Paul and other prisoners sent to Rome (to Julius)
- God talks to disciples via vision, dream, revelation, physical appearance

### *Romans*

- Written by Paul to Romans
- Apostle to Gentiles
- 1 25- Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator, who is blessed forever. Amen.
- 2 -Peace among all, including Jews and Gentiles
- 3 -Law is the knowledge of sin
- 8 -Romans share heritage among all children therefore continue legacy rather than Jewish who favour first born
- 10 -Paul questions who will go get Jesus from heaven and bring him back up?
- 11 -Fear people going after the prophets, including Paul
- 13 -Don't owe other people anything but love and help

one another

-Paul talks about 10 commandments ultimately being love

- 15 -Going to minister words of Jesus to Gentiles who might accept him and be baptized with Holy Ghost

### *1 Corinthians*

-Written by Paul

- 2 -Wisdom of God revealed through Spirit

- 7 -Rules of marriage

- 9 -Paul vindicates his apostleship (clears/ states)

- 11 -Talks about man vs woman. woman glorifies man as Christ glorifies God

-Rapture... end of world.. will second coming come in time of millenniums? issue with modern church.

Page 1136

### *2 Corinthians*

- 11 -Satan can even appear to be an angel (false teachings of fake apostles)

### *Galatians*

-Influence during Protestant Reformation

-Paul's letter addressed to group of churches

- 3 28-All people are one under Jesus Christ

- 6 -New life as a brotherhood

-Bear each other's burdens

### *Ephesians*

-Addressed to Gentile

-Letter from Paul

- 5 32-church and Christ = mystery?

### *Philippians*

-Letter from Paul

-The peace joy and contentment he finds in Christ

- 2 10-All people will fall to their knees, religious and non-religious

### *Colossians*

-Paul wrote to Colossians to warn them from reverting to old pagan ways

- 1 28-Whom we preach, warning every man, and teaching every man in all wisdom; that we may present every man perfect in Christ Jesus:



- 2 1-3 Jesus and god are mysterious. hidden treasures of wisdom and knowledge
- 3 16- Let the word of Christ dwell in you richly in all wisdom; teaching and admonishing one another in psalms and hymns and spiritual songs, singing with grace in your hearts to the Lord.

### *Thessalonians*

- Written by Paul to gentile church of new converts
- talks about the model church, servant, believer, hope etc.

### *Timothy*

- Written by Paul to Timothy
- 1 -Warning Timothy of false teachers
- 2 -Jesus = mediator between man and God
- 5 -Instructions for the church
- 6 10-Money is root of all evil

### *Titus*

- Paul to coworker
- 1 -Qualifications for elders (pastors)

### *Philemon*

- Paul to Philemon
- Power of gospel transforms lives

### *Hebrews*

- Not truly sure of who the author is
- Typology = symbol of something to come. IE moses is a typology of Jesus
- 1 -God speaks to us through son
- 2 -God protect his children from devil
- 6 -The certainty of Gods promise
- 10 -Keep confidence
- Made holy through relationship with Jesus
- 11 -Moses escape the Egyptians by Red Sea
- 12 -Ensure everyone has grace of God
- 13 -Keep life free from money and love and be thankful for what you have
- Timothy released

### *James*

- Written by James
- Natural son of Joseph and Mary

- Jewish Christian
- Warning for people to respond to mercy
- 1 5- If any of you lack wisdom, let him ask of God, that giveth to all men liberally, and upbraideth not; and it shall be given him.
- 2 -Rich in kingdom for those that love God
- 3 -Those who teach the gospel are judged by God stricter
- Wisdom from above
- No false truth or jealousy or selfishness
- Make peace
- 5 -Warning the rich

#### *Peter*

- Written by Peter, leader of Christian Church
- 1 -Those who follow are holy?
- (2)2 - False teachers

#### *John*

- 2 -New commandment
- Light vs darkness
- 3 -Jesus appeared to destroy devil
- 4 -Mentions antichrist
- (3) -Church discipline

#### *Jude*

- Mockers of God
- Joy in millennial kingdom

#### *Revelation*

- 7 Blessings in revelation (pg 1229).
- Unseen spiritual war which the church is engaged
- 1 -7 Golden candlesticks
- 16-Stars and sun
- 20-The 7 stars = angels of 7 churches
  - Ephesus
  - Smyrna
  - Pergamos
  - Thyatira
  - Sardis
  - Philadelphia
  - Laodicea
- 4 -Seven sealed book
- 7 Spirits of God: beasts: lion, calf, face of man, flying eagle. beasts had 6 wings around

- 5 12-Symbol of lamb = power, wisdom, strength etc
- 6 13-Stars of heaven fell onto earth
- 8 -Open 7 seals
- 7 Angels from the 7th seal?
- 21 -Gods plan for eternity = heaven
- 22 16-I Jesus have sent mine angel to testify unto you these things in the churches. I am the root and the offspring of David, and the bright and morning star.

## **Ornament Relations**

### *Dove*

Matthew 3:16 -And Jesus, when he was baptized, went up straightway out of the water: and, lo, the heavens were opened unto him, and he saw the Spirit of God descending like a dove, and lightning upon him:

Mark 1:10 -And straightway coming up out of the water, he saw the heavens opened, and the Spirit like a dove descending upon him:

Luke 3:22 -And the Holy Ghost descended in a bodily shape like a dove upon him, and a voice came from heaven, which said, Thou art my beloved son; in thee I am well pleased.

John 1:32 -And John bare record, saying, I saw the Spirit descending from heaven like a dove, and it abode upon him.

### *Light*

Matthew 4:16 -The people which sat in darkness saw great light; and to them which sat in the region and shadow of death light is sprung up.

Matthew 5:14-16 -Ye are the light of the world. A city that is set on a hill cannot be hid. / Neither do men light a candle, and put it under a bushel, but on a candlestick; and it giveth light unto all that are in the house. / Let your light so shine before men, that they may see your good works, and glorify your Father which is in heaven.

John 1:4-6 -In him was life; and the life was the light of men. / And the light shineth in darkness; and the darkness comprehended it not. / There was a man sent from God, whose name was John.

John 3:21 -But he that doeth truth cometh to the light, that

his deeds may be made manifest, that they are wrought in God.

John 8:12 -Then soake Jesus again unto them, saying, I am the light of the world: he that followeth me shall not walk in darkness, but shall have the light of life.

John 12:35-36 -Then Jesus said unto them, Yet a little while is the light with you. Walk while ye have the light, lest darkness come upon you: for he that walketh in darkness knoweth not whither he goeth. / While ye have light, believe in the light, that ye may be the children of light. These things spake Jesus, and departed, and did hide himself from them.

John(letter) 1:5 -This then is the message which we have heard of him, and declare unto you, that God is light, and in him is no darkness at all.

#### *Angels*

Matthew 18:10 -Take heed that ye despise not one of these little ones; for I say unto you, That in heaven their angels do always behold the face of my Father which is in heaven.

Luke 1:19 -And the angel answering said unto him, I am Gabriel, that stand in the presence of God; and am sent to speak unto thee, and to shew thee these glad tidings.

John 1:51 -And he saith unto him, Verily, verily, I say unto you, Hereafter ye shall see heaven open, and the angels of God ascending and descending upon the Son of man.

Acts 6:15 -And all that sat in council, looking stedfastly on him, saw his face as it had been the face of an angel.

Acts 7:30 -And when forty years were expired, there appeared to him in the wilderness of mount Sina an angel of the Lord in a flame of fire in a bush.

#### *Holy Ghost*

Matthew 28:19 -Go ye therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost.

Luke 3:16 -John answered, saying unto them all, I indeed

baptize you with water; but one mightier than I cometh, the latchet of whose shoes I am not worthy to unloose: he shall baptize you with the Holy Ghost and with Fire.

Luke 23:46 -And when Jesus had cried with a loud voice, he said, Father, into thy hands I commend my spirit: and having said thus, he gave up the ghost.

John 4:24 -God is a Spirit: and they that worship him must worship him in spirit and in truth.

John 19:30 -When Jesus therefore have received the vinegar, he said, It is finished: and he bowed his head, and gave up the ghost.

Acts 1:2 -Until the day in which he was taken up, after that he through the Holy Ghost had given commandments unto the apostles whom he had chosen:

Acts 2:38 -Then Peter said unto them, Repent, and be baptized every one of you in the name of Jesus Christ for the remission of sins, and ye shall receive the gift of the Holy Ghost.

Acts 4:8-9 -Then Peter, filled up with the Holy Ghost, said unto them, Ye rulers of the people, and elders of Israel, / If we this day be examined of the good deed done to the impotent man, by what means he is made whole;

Acts 5:32 -And we are his witnesses of these things; and so is also the Holy Ghost, whom God hath given to them that obey him.

Acts 6:3 -Wherefore, brethren, look ye out among you seven men of honest report, full of the Holy Ghost and wisdom, whom we may appoint over this business.

Acts 19:4 -Then said Paul, John verily baptized with the baptism of repentance, saying unto the people, that they should believe on him which should come after him, that is, on Christ Jesus.

Acts 20:23 -Save that the Holy Ghost witnesseth in every city, saying that bonds and afflictions abide me.

Romans 5:5 -And hope maketh not ashamed; because the

love of God is shed abroad in our hearts by the Holy Ghost which is given unto us.

1 Corinthians 2:6-12, 16 -Howbeit we speak wisdom among them that are perfect: yet not the wisdom of this world, nor of the princes of the world, that come to nought: / But we speak the wisdom of God in a mystery, even the hidden wisdom, which God ordained before the world unto our glory: / Which none of the princes of this world knew: for had they known it, they would not have crucified the Lord of glory. / But as it is written, Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love him. / But God hath revealed them unto us by his Spirit: for the Spirit searcheth all things, yea, the deep things of God. / For what man knoweth the things of a man, save the spirit of man which is in him? even so the things of God knoweth no man, but the spirit of God. / Now we have received, not the spirit of the world, but the spirit which is of God; that we might know the things that are freely given to us of God.

#### *Wisdom*

Luke 2:40 -And the child grew, and waxed strong in spirit, filled with wisdom: and the grace of God was upon him.

Luke 2:52 -And Jesus increased in wisdom and stature, and in favour with God and man.

Luke 11:31 -The queen of the south shall rise up in the judgement with the men of this generation. and condemn them: for she came from the utmost parts of the earth to hear the wisdom of Solomon; and, behold, a greater than Solomon is here.

Acts 2:4 -And they were all filled with the Holy Ghost, and began to speak with other tongues, as the Spirit gave them utterance.

Acts 7:22 -And Moses was learned in all the wisdom of the Egyptians, and was mighty in words and in deeds.

Romans 11:33 -O depth of the riches both of the wisdom and knowledge of God! how unsearchable are his judgements, and his ways past finding out!

Romans 16:27 -To God only wise, be glory through Jesus Christ for ever. Amen.

Ephesians 1:8-9 -Wherein he hath abounded towards us in all wisdom and prudence; / Having made known unto us the mystery of his will. According to his good pleasure which he hath purposed in himself:

Corinthians 1:19-31 -For it is written, I will destroy the wisdom of the wise, and will bring to nothing understanding of the prudent. / Where is the wise? where is the scribe? where is the disputer of this world? hath not God made foolish the wisdom of the world? / For after that in the wisdom of God the world by wisdom knew not God, it pleased God by the foolishness of preaching to save them that believe. / For the Jews require a sign, and the Greeks seek after wisdom: / But we preach Christ crucified, unto the Jews and stumblingblock. and unto the Greeks foolishness; / But unto them which are called, both Jews and Greeks, Christ the power of God, and the wisdom of God. / Because the foolishness of God is wiser than men; and the weakness of God is stronger than men. / For ye see your calling, brethren, how that not many wise men after the flesh, not many mighty, not many noble are called: / But God hath chosen the foolish things of the world to confound the wise; and God hath chosen the weak things of the world to confound the things which are mighty; / And base things of the world, and things which are despised, hath God chosen, yea, and things which are not, to bring to nought things that are: / That no flesh should glory in his presence. / But of him are ye in Christ Jesus, who of God is made unto us wisdom, and righteousness, and sanctification, and redemption: / That, according as it is written, He that glorieth, let him glory in the Lord.

Colossians 1:28 -Whom we preach, warning every man, and teaching every man in all wisdom; that we may present every man perfect in Christ Jesus;

Colossians 3:16 -Let the word of Christ dwell in you richly in all wisdom; teaching and admonishing one another in psalms and hymns and spiritual songs, singing with grace in your hearts to the Lord.

James 1:5 -If any of you lack wisdom, let him ask of God,

that giveth to all men liberally, and upbraideth not; and it shall be given him.

James 3:13-18 -Who is a wise man and endued with knowledge among you? let him shew out of a good conversation his works with meekness of wisdom. / But if ye have bitter envying and strife in your hearts, glory not, and lie not against the truth. / This wisdom descendeth not from above, but is earthly, sensual, devilish. / For where envying and strife is, there is confusion and every evil work. / But the wisdom that is from above is first pure, then peaceable, gentle, and easy to be intreated, full of mercy and good fruits, without partiality, and without hypocrisy. / And the fruit of righteousness is sown in peace of them that make peace.

Revelation 13:18 -Here is wisdom. Let him that hath understanding count the number of the beast: for it is the number of a man; and his number is Six hundred threescore and six.

#### *Mystery*

Colossians 2:1-3 -For I would that ye knew what great conflict I have for you, and for them at Laodicea, and for as many as have not seen my face in the flesh; That their hearts might be comforted, being knit together in love, and unto all riches of the full assurance of understanding, to the acknowledgement of the mystery of God, and of the Father, and of Christ; In whom are hid all the treasures of wisdom and knowledge.

#### *Architecture*

Acts 3:10 -And they knew that it was he which sat for alms at the Beautiful gate of the temple: and they were filled with wonder and amazement at that which had happened unto him.

Acts 4:31 -And when they had prayed, the place was shaken where they were assembled together; and they were all filled with the Holy Ghost, and they spake the word of God with boldness.

Acts 7:47 -But Solomon built him an house.

Acts 11:5 -I was in the city of Joppa praying: and in a trance



I saw a vision, A certain vessel descend, as it had been a great sheet, let down from heaven by four corners; and it came even to me;

Acts 12:6 -And when Herod would have brought him forth, the same night Peter was sleeping between two soldiers, bound with two chains: and the keepers before the door kept the prison.

Acts 17:23-24, 29 -For as I passed by, and beheld your devotions, I found an altar with this inscription, To The Unknown God. Whom therefore ye ignorantly worship, him declare I unto you. / God that made the world and all things therein, seeing that he is Lord of heaven and earth, dwelleth not in temples made with hands; / Forasmuch then as we are the offspring of God, we ought not to think that the Godhead is like unto gold, or silver, or stone, graven by art and man's device.

1 Corinthians 3:10, 17 -According to the grace of God which is given unto me, as a wise masterbuilder, I have laid the foundation, and another buildeth thereupon.

#### *Church*

Acts 4:32 -And the multitude of them that believed were of one heart and of one soul: neither said any of them that ought of the things which he possessed was his own; but they had all things common.

Acts 7:38 -This is he, that was in the church in the wilderness with the angel which spake to him in the mount Sina, and with our fathers: who received the lively oracles to give unto us.

Acts 7:49 -Heaven is my throne, and earth is my footstool: what house will ye build me? saith the Lord: or what is the place of my rest?

Acts 8:1 -And Saul was consenting unto his death. And at that time there was a great persecution against the church which was at Jerusalem; and they were all scattered abroad throughout the regions of Judaea and Samaria, except the apostles.

Acts 16:15 -And when she was baptized, and her household,

she besought us, saying, If ye have judged me to be faithful to the Lord, come into my house, and abide there. And she constrained us.

Ephesians 5:32 -This is a great mystery: but I speak concerning Christ and the church.

Revelation (talks about the 7 churches throughout).

### *Phenomonology*

Acts 7:33 -Then said the Lord to him, Put off thy shoes from thy feet: for the place where thou standest is holy ground

Acts 10:11 -And he saw heaven opened, and a certain vessel descending unto him, as it had been a great sheet knit at the four corners, and let down to the earth.

### *Stars*

Revelation 1:16 -And he had in his right hand seven stars: and out of his mouth went a sharp twoedged sword: and his countenance was as the sun shineth in his strength.

Revelation 6:13 -And the stars of heaven fell unto earth, even as a fig tree casteth her untimely figs, when she is shaken of a mighty wind.

Revelation 9:1 -And the fifth angel sounded, and I saw a star fall from heaven unto earth: and to him was given the key of the bottomless pit.

Revelation 16:18 -And there were voices, and thunders, and lightnings; and there was a great earthquake, such as was not sine men were upon the earth, so mighty an earthquake, and so great.

Revelation 17:9 -And here is the mind which hath wisdom. The seven heads are seven mountains, on which the women sitteth.

Revelation 22:16 -I Jesus have sent mine angel to testify unto you these things in the churches. I am the root and the offspring of David, and the bright and morning star.

## **New Testament: Contemporary Study**

These passages from the Bible are significant as they encompass relevant themes to the Catholic Church today and the mission of the Archdiocese of Toronto.

### *Grace*

John 1:14 -And the Word was made flesh, and dwelt among us, (and we beheld his glory, the glory as of the only begotten of the Father,) full of grace and truth

John 15:17 -John bare witness of him, and cried, saying, This was he of whom I spake, He that cometh after me is preferred before me: for he was before me. / And of his fulness have all we received, and grace for grace. / For the law was given by Moses, but grace and truth came by Jesus Christ.

Luke 2:40 -And the child grew, and waxed strong in spirit, filled with wisdom: and the grace of god was upon him.

Luke 18:22-25 -Now when Jesus heard these things, he said unto him, Yet lackest thou one thing: sell all that thou hast, and distribute unto the poor, and thou shalt have treasure in heaven: and come, follow me. / And when he heard this, he was very sorrowful: for he was very rich. / And when Jesus saw that he was very sorrowful, he said, How hardly shall they that have riches enter into the kingdom of God! / For it is easier for a camel to go through a needle's eye, than for a rich man to enter into the kingdom of God.

Acts 4:31 -And when they had prayed, the place was shaken where they were assembled together; and they were filled with the Holy Ghost, and they spake the word of God with boldness.

Acts 4:33 -And with great power gave the apostles witness of the resurrection of the Lord Jesus: and great grace was upon them all.

Acts 6:8 -And Stephen, full of faith and power, did great wonders and miracles among people.

Acts 11:23 -Who, when he came, and had seen the grace of God, was glad, and exhorted them all, that with purpose of heart they would cleave unto the Lord.

Acts 13:43 -Now when the congregation was broken up, many of the Jews and religious proselytes followed Paul and Barnabas: who, speaking to them, persuaded them to continue in the grace of God.

Acts 14:3 -Long time therefore abode they speaking boldly in the Lord, which gave testimony unto the word of his grace, and granted signs and wonders to be done by their hands.

Acts 14:26 -And thence sailed to Antioch, from whence they had been recommended to the grace of God for the work which they fulfilled.

Acts 15:9-11 -And put no difference between us and them, purifying their hearts by faith. / Now therefore why tempt ye God, to put a yoke upon the neck of the disciples, which neither our fathers nor we were able to bear? / But we believe that through the grace of the Lord Jesus Christ we shall be saved, even as they.

Acts 15:40 -And Paul chose Silas, and departed, being recommended by the brethren unto the grace of God.

Acts 18:27 -And when he was disposed to pass into the Achaia, the brethren wrote, exhorting the disciples to receive him: who, when he was come, helped them much which had believed through grace:

Acts 20:24 -But none of these things move me, neither count I my life dear unto myself, so that I might finish my course with joy, and the ministry, which I have received of the Lord Jesus, to testify the gospel of the grace of God.

Acts 20:32 -And now, brethren, I commend you to God, and to the word of his grace, which is able to build you up, and to give you an inheritance among all them which are sanctified.

Romans 1:5-7 -By whom we have received the grace and apostleship, for obedience to the faith among all nations, for his name: / Among whom are ye also the called of Jesus Christ: / To all that be in Rome, beloved of God, called to be saints: grace to you and peace from God our Father, and the Lord Jesus Christ.

Romans 3:24 -Being justified freely by his grace through the redemption that is in Christ Jesus:

Romans 4:1-4 -What shall we say then that Abraham our father, as pertaining to the flesh, hath found? / For if Abraham were justified by works, he hath whereof to glory; but not before God. / For what saith the scripture? Abraham believed God, and it was counted unto him for righteousness. / Now to him that worketh is the reward not reckoned of grace, but of debt.

Romans 4:15-16 -Because the law worketh wrath: for where no law is, there is no transgression. / Therefore it is of faith, that it might be by grace; to the end the promise might be sure to all the seed; not to that only which is of the law, but to that also which is of the faith of Abraham; who is the father of us all,

Romans 5:2-5 -By whom also we have access by faith into this grace wherein we stand, and rejoice in hope of the glory of God. / And not only so, but we glory in tribulations also: knowing that tribulation worketh patience; / And patience, experience; and experience, hope: / And hope maketh not ashamed; because the love of God is shed abroad in our hearts by the Holy Ghost which is given unto us.

### *Sacraments*

(Confession) Matthew 10:1-8 -Then Jesus summoned his twelve disciples and gave them authority over unclean spirits, to cast them out, and to cure every disease and every sickness. / These are the names of the twelve apostles: first, Simon, also known as Peter, and his brother Andrew; James son of Zebedee, and his brother John; / Philip and Bartholomew; Thomas and Matthew the tax collector; James son of Alphaeus, and Thaddaeus; / Simon the Cananaean, and Judas Iscariot, the one who betrayed him. These twelve Jesus sent out with the following instructions: "Go nowhere among the Gentiles, and enter no town of the Samaritans, / but go rather to the lost sheep of the house of Israel. / As you go, proclaim the good news, 'The kingdom of heaven has come near.' / Cure the sick, raise the dead, cleanse the lepers, cast out demons. You received without payment; give without payment.

(Marriage) Matthew 19:6 -Wherefore they are no more twain, but one flesh. What therefore God hath joined together, let not man put asunder.

(Eucharist) Matthew 26:26-29 -And as they were eating, Jesus took the bread, and blessed it, and brake it, and gave it to the disciples, and said, Take, eat; this is my body. / And he took the cup, and gave thanks, and gave it to them, saying, Drink ye all of it; / For this is my blood of the new testament, which is shed for many for the remission of sins. But I say unto you, I will not drink henceforth of this fruit of the vine, until the day when I drink it new with you in my Father's Kingdom.

(confirmation) John 20:22-23 -And when he said this, he breathed on them, and saith unto them, Receive ye the Holy Ghost; Whose soever sins ye remit, they are remitted unto them; and whose soever sins ye retain, they are retained.

John 6:32-35 -Then Jesus said unto them, Verily, verily, I say unto you, Moses gave you not that bread from heaven; but my Father giveth you the true bread from heaven. / For the bread of God is he which cometh down from heaven, and giveth life unto the world. / Then said they unto him, Lord, evermore give us this bread. / And Jesus said unto them, I am the bread of life: he that cometh to me shall never hunger; and he that believeth on me shall never thirst.

(confirmation) Acts 2:1-4 -And when the day of Pentecost was fully come, they were all with one accord in one place. / And suddenly there came a sound from heaven as of a rushing mighty wind, and it filled all the house where they were sitting. / And there appeared unto them cloven tongues like as of fire, and it sat upon each of them. / And they were all filled with the Holy Ghost, and began to speak with other tongues, as the Spirit gave them utterance.

(Anointing the Sick) James 5:14 -Is any sick among you? let him call for the elders of the church; and let them pray over him, anointing him with oil in the name of the Lord:

1 Corinthians 10:16-17 -The cup of blessing which we bless, is it not the communion of the blood of Christ? The bread which we break, is it not the communion of the body of Christ? / For we being many are one bread, and one body:

for we are all partakers of that one bread.

1 Corinthians 12:13 -For by one Spirit are we all baptized into one body, whether we be Jews or Gentiles, whether we be bond or free; and have been all made to drink into one Spirit.

Galatians 3:27 -For as many of you as have been baptized into Christ have put on Christ.

1 Peter 3:21 -The like figure whereunto even baptism doth also now save us (not the putting away of the filth of the flesh, but the answer of a good conscience toward God,) by the resurrection of Jesus Christ:

#### *Modesty*

1 Timothy 2:9 -In like manner also, that women adorn themselves in modest apparel, with shamefacedness and sobriety; not with broided hair, or gold, or pearls, or costly array;

#### *Humble*

Matthew 11:29 -Come unto me, all ye that labour and are heavy laden, and I will give you rest. / Take my yoke upon you, and learn of me; for I am meek and lowly in heart: and ye shall find rest unto your souls. / For my yoke is easy, and my burden is light.

Matthew 18:1-5 -At the same time came the disciples unto Jesus, saying, Who is the greatest in the kingdom of heaven? / And Jesus called a little child unto him, and set him in the midst of them, / And said, Verily I say unto you, Except ye be converted, and become as little children, ye shall not enter into the kingdom of heaven. / Whosoever therefore shall humble himself as this little child, the same is greatest in the kingdom of heaven. / And whoso shall receive one such little child in my name receiveth me.

Matthew 23:9-12 -And call no man your father upon the earth: for one is your Father, which is in heaven. / Neither be ye called masters: for one is your Master, even Christ. / But he that is greatest among you shall be your servant. / And whosoever shall exalt himself shall be abased; and he that shall humble himself shall be exalted.

James 1:9 -Let the brother of low degree rejoice in that he is exalted:

James 4:6 -But he giveth more grace. Wherefore he saith, God resisteth the proud, but giveth grace unto the humble.

James 4:10 -Humble yourselves in the sight of the Lord, and he shall lift you up.

Leviticus 16:31 -It shall be a sabbath of rest unto you, and ye shall afflict your souls, by a statute for ever.

Luke 1:46-50 -And Mary said, My soul doth magnify the Lord, / And my spirit hath rejoiced in God my Saviour. / For he hath regarded the low estate of his handmaiden: for, behold, from henceforth all generations shall call me blessed. / For he that is mighty hath done to me great things; and holy is his name. / And his mercy is on them that fear him from generation to generation.

Luke 14:11 -[For whosoever exalteth himself shall be abased; and he that humbleth himself shall be exalted.]

Luke 18:14 -I tell you, this man went down to his house justified rather than the other: for every one that exalteth himself shall be abased; and he that humbleth himself shall be exalted.

Acts 2:40-47 -And with many other words did he testify and exhort, saying, Save yourselves from this untoward generation. / Then they that gladly received his word were baptized: and the same day there were added unto them about three thousand souls. / And they continued stedfastly in the apostles' doctrine and fellowship, and in breaking of bread, and in prayers. / And fear came upon every soul: and many wonders and signs were done by the apostles. / And all that believed were together, and had all things common; / And sold their possessions and goods, and parted them to all men, as every man had need. / And they, continuing daily with one accord in the temple, and breaking bread from house to house, did eat their meat with gladness and singleness of heart, / Praising God, and having favour with all the people. And the Lord added to the church daily such as should be saved.



Philippians 2:8 -And being found in fashion as a man, he humbled himself, and became obedient unto death, even the death of the cross.

Philippians 3:21 -Who shall change our vile body, that it may be fashioned like unto his glorious body, according to the working whereby he is able even to subdue all things unto himself.

1 Peter 3:8 -Finally, be ye all of one mind, having compassion one of another, love as brethren, be pitiful, be courteous:

1 Peter 5:5-6 -Likewise, ye younger, submit yourselves unto the elder. Yea, all of you be subject one to another, and be clothed with humility: for God resisteth the proud, and giveth grace to the humble./ Humble yourselves therefore under the mighty hand of God, that he may exalt you in due time:

#### *Prayer*

Matthew 18:19-20 -Again I say unto you, That if two of you shall agree on earth as touching any thing that they shall ask, it shall be done for them of my Father which is in heaven. / For where two or three are gathered together in my name, there am I in the midst of them.

Luke 3:21 -Now when all the people were baptized, it came to pass, that Jesus also being baptized, and praying, the heaven was opened,

John 20:21-23 -Then said Jesus to them again, Peace be unto you: as my Father hath sent me, even so send I you. / And when he had said this, he breathed on them, and saith unto them, Receive ye the Holy Ghost: / Whose soever sins ye remit, they are remitted unto them; and whose soever sins ye retain, they are retained.

2 Chronicles 7:14 -If my people, which are called by my name, shall humble themselves, and pray, and seek my face, and turn from their wicked ways; then will I hear from heaven, and will forgive their sin, and will heal their land.

#### *Ressurrection*

1 Corinthians 15:1-11 -Moreover, brethren, I declare unto you the gospel which I preached unto you, which also ye

have received, and wherein ye stand; / By which also ye are saved, if ye keep in memory what I preached unto you, unless ye have believed in vain. / For I delivered unto you first of all that which I also received, how that Christ died for our sins according to the scriptures; / And that he was buried, and that he rose again the third day according to the scriptures: / And that he was seen of Cephas, then of the twelve. / After that, he was seen of above five hundred brethren at once; of whom the greater part remain unto this present, but some are fallen asleep. / After that, he was seen of James; then of all the apostles. / And last of all he was seen of me also, as of one born out of due time. / For I am the least of the apostles, that am not meet to be called an apostle, because I persecuted the church of God. / But by the grace of God I am what I am: and his grace which was bestowed upon me was not in vain; but I laboured more abundantly than they all: yet not I, but the grace of God which was with me. / Therefore whether it were I or they, so we preach, and so ye believed.

John 11:25 -Jesus said unto her, I am the resurrection, and the life: he that believeth in me, though he were dead, yet shall he live:

Luke 14:13-15 -But when thou makest a feast, call the poor, the maimed, the lame, the blind: / And thou shalt be blessed; for they cannot recompense thee: for thou shalt be recompensed at the resurrection of the just. And when one of them that sat at meat with him heard these things, he said unto him, Blessed is he that shall eat bread in the kingdom of God.

Luke 20:36-38 -Neither can they die any more: for they are equal unto the angels; and are the children of God, being the children of the resurrection. / Now that the dead are raised, even Moses shewed at the bush, when he calleth the Lord the God of Abraham, and the God of Isaac, and the God of Jacob. / For he is not a God of the dead, but of the living: for all live unto him.

*Forgiveness/Relevance To The Church Today*

Matthew 12:25 -Every kingdom divided against itself is brought to desolation; and every city or house divided against itself shall not stand.

Matthew 18:10 -Take heed that ye despise not one of these little ones; for I say unto you, That in heaven their angels do always behold the face of my father which is in heaven  
-This passage is significant because it is reinstating the importance of youth in the church.

Matthew 18:20-22 -For where two or three are gathered together in my name, there am I in the midst of them. / Then came Peter to him, and said, Lord, how oft shall my brother sin against me, and I forgive him? till seven times? / Jesus saith unto him, I say not unto thee, Until seven times: but, Until seventy times seven.

Matthew 16:18 -And I say also unto thee, That thou art Peter, and upon this rock I will build my church; and the gates of hell shall not prevail against it.

Matthew 28:19-20 -Go ye therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost: / Teaching them to observe all things whatsoever I have commanded you: and, lo, I am with you always, even unto the end of the world. Amen.

Acts 9:31-32 -Then had the churches rest throughout all Judaea and Galilee and Samaria, and were edified; and walking in the fear of the Lord, and in the comfort of the Holy Ghost, were multiplied. / And it came to pass, as Peter passed throughout all quarters, he came down also to the saints which dwelt at Lydda.

Romans 10:17 -So then faith cometh by hearing, and hearing by the word of God.

2 Timothy 4:2 -Preach the word; be instant in season, out of season; reprove, rebuke, exhort with all long suffering and doctrine.

Hebrews 10:19-39 - Having therefore, brethren, boldness to enter into the holiest by the blood of Jesus, / By a new and living way, which he hath consecrated for us, through the veil, that is to say, his flesh; / And having an high priest over the house of God; / Let us draw near with a true heart in full assurance of faith, having our hearts sprinkled from an evil conscience, and our bodies washed with pure water. / Let us hold fast the profession of our faith without wavering; (for he

is faithful that promised;) / And let us consider one another to provoke unto love and to good works: / Not forsaking the assembling of ourselves together, as the manner of some is; but exhorting one another: and so much the more, as ye see the day approaching. / For if we sin wilfully after that we have received the knowledge of the truth, there remaineth no more sacrifice for sins, / But a certain fearful looking for of judgment and fiery indignation, which shall devour the adversaries. / He that despised Moses' law died without mercy under two or three witnesses: / Of how much sorer punishment, suppose ye, shall he be thought worthy, who hath trodden under foot the Son of God, and hath counted the blood of the covenant, wherewith he was sanctified, an unholy thing, and hath done despite unto the Spirit of grace? / For we know him that hath said, Vengeance belongeth unto me, I will recompense, saith the Lord. And again, The Lord shall judge his people. / It is a fearful thing to fall into the hands of the living God. / But call to remembrance the former days, in which, after ye were illuminated, ye endured a great fight of afflictions; / Partly, whilst ye were made a gazingstock both by reproaches and afflictions; and partly, whilst ye became companions of them that were so used. / For ye had compassion of me in my bonds, and took joyfully the spoiling of your goods, knowing in yourselves that ye have in heaven a better and an enduring substance. / Cast not away therefore your confidence, which hath great recompence of reward. / For ye have need of patience, that, after ye have done the will of God, ye might receive the promise. / For yet a little while, and he that shall come will come, and will not tarry. / Now the just shall live by faith: but if any man draw back, my soul shall have no pleasure in him. / But we are not of them who draw back unto perdition; but of them that believe to the saving of the soul.

James 1:22 -But be ye doers of the word, and not hearers only, deceiving your own selves.

Revelations 22:16 -I Jesus have sent mine angel to testify unto you these things in the churches. I am the root and the offspring of David, and the bright and morning star.

### *Purify*

Leviticus 8:14-16 - And he brought the bullock for the sin offering: and Aaron and his sons laid their hands upon the

head of the bullock for the sin offering. / And he slew it; and Moses took the blood, and put it upon the horns of the altar round about with his finger, and purified the altar, and poured the blood at the bottom of the altar, and sanctified it, to make reconciliation upon it. / And he took all the fat that was upon the inwards, and the caul above the liver, and the two kidneys, and their fat, and Moses burned it upon the altar.

Leviticus 14:49-53 -And he shall take to cleanse the house two birds, and cedar wood, and scarlet, and hyssop: / And he shall kill the one of the birds in an earthen vessel over running water: / And he shall take the cedar wood, and the hyssop, and the scarlet, and the living bird, and dip them in the blood of the slain bird, and in the running water, and sprinkle the house seven times: / And he shall cleanse the house with the blood of the bird, and with the running water, and with the living bird, and with the cedar wood, and with the hyssop, and with the scarlet: / But he shall let go the living bird out of the city into the open fields, and make an atonement for the house: and it shall be clean.

Numbers 8:7 -And thus shalt thou do unto them, to cleanse them: Sprinkle water of purifying upon them, and let them shave all their flesh, and let them wash their clothes, and so make themselves clean.

Numbers 19:12-20 -He shall purify himself with it on the third day, and on the seventh day he shall be clean: but if he purify not himself the third day, then the seventh day he shall not be clean. / Whosoever toucheth the dead body of any man that is dead, and purifieth not himself, defileth the tabernacle of the Lord; and that soul shall be cut off from Israel: because the water of separation was not sprinkled upon him, he shall be unclean; his uncleanness is yet upon him. / This is the law, when a man dieth in a tent: all that come into the tent, and all that is in the tent, shall be unclean seven days. / And every open vessel, which hath no covering bound upon it, is unclean. / And whosoever toucheth one that is slain with a sword in the open fields, or a dead body, or a bone of a man, or a grave, shall be unclean seven days. / And for an unclean person they shall take of the ashes of the burnt heifer of purification for sin, and running water shall be put thereto in a vessel: / And a clean person shall take hyssop, and dip it in the water, and

sprinkle it upon the tent, and upon all the vessels, and upon the persons that were there, and upon him that touched a bone, or one slain, or one dead, or a grave: / And the clean person shall sprinkle upon the unclean on the third day, and on the seventh day: and on the seventh day he shall purify himself, and wash his clothes, and bathe himself in water, and shall be clean at even. / But the man that shall be unclean, and shall not purify himself, that soul shall be cut off from among the congregation, because he hath defiled the sanctuary of the Lord: the water of separation hath not been sprinkled upon him; he is unclean.

Ezekiel 43:23 -When thou hast made an end of cleansing it, thou shalt offer a young bullock without blemish, and a ram out of the flock without blemish.

### *Forgiveness*

Mark 1:4 -John did baptize in the wilderness, and preach the baptism of repentance for the remission of sins.

Acts 2:38 -Then Peter said unto them, Repent, and be baptized every one of you in the name of Jesus Christ for the remission of sins, and ye shall receive the gift of the Holy Ghost.

Acts 26:18 -To open their eyes, and to turn them from darkness to light, and from the power of Satan unto God, that they may receive forgiveness of sins, and inheritance among them which are sanctified by faith that is in me.

Hebrews 9:22 - And almost all things are by the law purged with blood; and without shedding of blood is no remission.



## BIBLIOGRAPHY

Archambault, Éric, Frédéric Bertrand, Manon Bourgeois, and Julie Caruso. Formative Evaluation of SSHRC's Research/Creation in Fine Arts Program. PDF. Social Sciences and Humanities Research Council (SSHRC), October 8, 2007.

"Archdiocese of Toronto." Archdiocese of Toronto. Accessed January 02, 2019. <https://www.archtoronto.org/>.

"Art Walk of Tree Sculptures." Orangeville Tourism. January 17, 2019. Accessed March 20, 2019. <https://www.orangevilletourism.ca/attraction/art-walk-of-tree-sculptures/>.

Badillo, Noe. "Chapter 4: Language Beyond Metaphor: The Structural Symbolism of Borromini's Sant'Ivo All Sapiens." In *The Cultural Role of Architecture: Contemporary and Historical Perspectives*, edited by Paul Emmons, John Hendrix, and Jane Lomholt, 39-46. Routledge, Taylor & Francis Group.

Blunt, Anthony. *Borromini*. London: Penguin Books, 1979.

Bossy, John. *The Counter-Reformation and the People of Catholic Europe*. PDF. Oxford University Press on Behalf of The Past and Present Society, May 1970.

Braaten, Carl E. *A Trinitarian Theology of the Cross*. PDF. Chicago: University of Chicago Press, January 1976.

"Catholic Culture in the Age of the Baroque." "Catholic Culture in the Age of the Baroque." *Arts and Humanities Through the Eras*. 2018. Accessed November 06, 2018. <https://www.encyclopedia.com/humanities/culture-magazines/catholic-culture-age-baroque>.

Connors, Joseph. *Borromini's S. Ivo Alla Sapienza: The Spiral*. PDF. Burlington Magazine Publications Ltd, October 1996.

Connors, Joseph. "S. Ivo Alla Sapienza: The First Three Minutes." *Journal of the Society of Architectural Historians* 55, no. 1 (1996): 38-57. doi:10.2307/991054.



Evans, Robin. *The Projective Cast: Architecture and Its Three Geometries*. Cambridge: MIT Press, 2000. Accessed November 18, 2018. <https://books.google.ca/books>

“Foundation.” *Our History | Sapienza Università Di Roma*. Accessed September 23, 2018. <https://www.uniroma1.it/en/pagina/our-history>.

Hill, Michael. *Practical and Symbolic Geometry in Borromini’s San Carlo Alle Quattro Fontane*. PDF. University of California Press, December 2013.

“History.” *Town of Orangeville, Ontario, Canada*. Accessed January 02, 2019. <https://www.orangeville.ca/>.

KJV / Side-by-side Bible. Grand Rapids, MI.: Zondervan, 1995.

Lennan, Richard. *Risking the Church: The Challenges of Catholic Faith*. Oxford: Oxford University Press, 2004.

Mazzoti, Angelo Alessandro. *All Sides to an Oval: Properties, Parameters, and Borromini’s Mysterious Construction*. S.l.: Springer, 2019.

Mazzotti, Angelo Alessandro. “What Borromini Might Have Known About Ovals. Ruler and Compass Constructions.” *Nexus Network Journal* 16, no. 2 (2014): 389-415. doi:10.1007/s00004-014-0190-z.

Moltmann, Jurgen. *The “Crucified God” A Trinitarian Theology of the Cross*. PDF. University of Tübingen.

Morrissey, J. P. *The Genius in the Design: Bernini, Borromini, and the Rivalry That Transformed Rome*. London: Duckworth, 2006.

“Orangeville Zoning By-law 22-90.” *Town of Orangeville, Ontario, Canada*. Accessed January 02, 2019. <https://www.orangeville.ca/>.

Portoghesi, Paolo. *The Rome of Borromini: Architecture as Language*. New York: George Braziller, 1968

Rice, Louise. *Francesco Borromini: The Pentecostal Meaning of Borromini’s Sant’Ivo alla Sapienza*. PDF. Milan: Elemond Editori Associati, 2000.

Rosin, Paul L. *On Serlio’s Constructions of Ovals*. PDF. UK: Department of Computer Science Cardiff University, May 23, 2014.

“Sacraments.” *St. Timothy Church*. Accessed January 15, 2019. <http://sttimothychurch.ca/sacraments/>.

Schloeder, Steven J. *Architecture in Communion: Implementing the Second Vatican Council through Liturgy and Architecture*. San Francisco: Ignatius Press, 1998. Accessed November 18, 2018. <https://books.google.ca/books>

Scott, John Beldon. *S. Ivo Alla Sapienza and Borromini’s Symbolic Language*. PDF. University of California Press, October 19, 2014.

Smyth-Pinney, Julia M. *Borromini’s Plans for Sant’Ivo Alla Sapienza*. PDF. University of California Press, September 2000.

Statistics Canada. 2017. Orangeville [Population centre], Ontario and Alberta [Province] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfmLang=E> (accessed January 2, 2019).

Witko, Andrzej. The Trinitarian Iconography. PDF. 2007.

Wittkower, Rudolf, Jennifer Montagu, and Joseph Connors. Art and Architecture in Italy, 1600 to 1750. New Haven: Yale University Press, 1999. Accessed November 18, 2018. <https://books.google.ca/books>.

